# DATA QUALITY ASSURANCE REVIEW

SHE NAME Frank J. Do	yle Salvage Removal Actio	<u>n</u>				
WORK ORDER NUMBER	20600.012.001.1175.01	TDD NU	MBER	0001/18-1	75	
PROJECT NUMBER		SDG NU	MBER	HS	18110844	
Weston Solutions, Inc. (WE 20600.012.001.1175.01; SDG No analyzed for Polychlorinated Bip below.		oyle Salva	ge Remo	val Action. 1	Nine sam	ples were
	SAMPLE NUM	BERS				
DRA06-20181115-12-57	DRA06-20181115-12-56		EAS04-2	0181115-06-5	56	
FJD02-05B-20181115-06-56	FJD02-06-20181115-06-56		FJD02-10	OS-20181115-	12-56	
FJD03-01-20181115-06-56	FJD03-03-20181115-06-56		FJD05-03	3A-20181115-	-06-56	
						<u> </u>
This data package was validated USEPA National Functional Guidelines National Functional Guidelines Laboratory Program National F (April, 2016), Quality Assurance the Regional Protocol for Hold qualifications are listed in the following	delines for Organic Superfi for Inorganic Superfund Functional Guidelines for It Quality Control Guidance ing Times, Blanks, and V	and Method Data Revi High Resol I for Remov	ls Data R iew (Janu ution Sup val Activi	leview (Janua lary, 2017), perfund Meta ities (Septem	ary, 2017 USEPA hods Data ber, 201	), USEPA Contract ta Review 1), and/or
REVIEWER Gloria J. Sw	vitalski		DATE	Decemb	per 13, 20	)18

## **Data Qualifiers**

Data Qualifier Definitions were supplied by the Office of Solid Waste and Emergency Response (September 1989) and are included in the Functional Guidelines. Data qualifiers may be combined (UJ, QJ) with the corresponding combination of meanings. Additional qualifiers may be added to provide additional, more specific information (JL, UB, QJK), modifying the meaning of the primary qualifier. Additional qualifiers utilized by WESTON are H, L, K, B, and Q.

U - The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation or detection limit, which has been adjusted for sample weight/sample volume, extraction volume, percent solids, sample dilution or other analysis specific parameters.

An additional qualifier, "B", may be appended to indicate that while the analyte was detected in the sample, the presence of the analyte may be attributable to blank contamination and the analyte is therefore considered undetected with the sample detection or quantitation limit for the analyte being elevated.

J - The analyte was analyzed for, but the associated numerical value may not be consistent with the amount actually present in the environmental sample or may not be consistent with the sample detection or quantitation limit. The value is an estimated quantity. The data should be seriously considered for decision-making and are usable for many purposes.

An additional qualifier will be appended to the "J" qualifier that indicates the bias in the reported results:

- L Low bias
- H High bias
- K Unknown bias
- Q The reported concentration is less than the sample quantitation limit for the specific analyte in the sample.

The L and H qualifier will only be employed when a single qualification is required. When more than one quality control parameter affects the analytical result and a conflict results in assigning a bias, the result will be flagged JK.

- R Quality Control indicates that data are unusable for all purposes. The analyte was analyzed for, but the presence or absence of the analyte has not been verified. Resampling and reanalysis are necessary for verification to confirm or deny the presence of an analyte.
- N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

#### PCB FRACTION EVALUATION

# 1. Analytical Method:

Samples were prepared and analyzed for PCBs using the procedures specified in SW-846 Method 8082A.

#### 2. Holding Time:

The samples were received within the recommended ≤6°C NFG limit. All samples were extracted within the required holding time of less than 1 year after collection. Analysis of the samples was conducted within 40 days of extraction. No qualifications are placed on the data.

## 3. Initial Calibration:

The correlation coefficient of the multipoint initial calibration was greater than or equal to 0.995 or the percent relative standard deviation (%RSD) was less than or equal to 20%. No qualifications are placed on the data.

## 4. Continuing Calibration:

The continuing calibration check was analyzed at the required frequency and met recovery requirements of 75%-125% [percent difference (%D) was less than 25%]. No qualifications are placed on the data.

#### 5. Blanks:

#### A. Laboratory Blanks:

A method blank was prepared at the required frequency of every time samples were extracted for each matrix and concentration or every 20 samples whichever is greater. No target analytes were detected in the method blanks at concentrations that warrant blank action. No qualifications are placed on the data.

## B. Field Blanks:

No field blank samples were submitted with this analytical package. No qualifications are placed on the data.

## 6. Surrogates:

All recoveries of the surrogates were within the control limits provided. No qualifications are placed on the data.

# 7. Matrix Spikes/Matrix Spike Duplicates (MS/MSD):

Sample FJD05-03A-20181115-06-56 underwent MS/MSD analysis for the solid matrix. Recoveries of all spiked analytes were within the control limits provided. No qualifications are placed on the data.

## 8. Duplicates:

# A. Laboratory Duplicate Analysis:

Sample FJD05-03A-20181115-06-56 underwent MS/MSD analysis for the solid matrix. QC criteria are that the relative percent difference (RPD) values for the duplicate sample analysis are less than 20% for aqueous samples and less than 35% for solid samples. All QC criteria were met. No qualifications are placed on the data.

## B. Field Duplicate Analysis:

The following sample pair was submitted as field duplicates for the solid matrix: DRA06-20181115-12-57/DRA06-20181115-12-56. QC criteria are that the RPD values for the field duplicate sample analysis be less than 30% for aqueous samples and less than 50% for solid samples for concentrations greater than five times the reporting limit (RL). For sample concentrations less than five times the RL, the QC criteria are that the absolute difference between the samples is less than two times the RL for aqueous samples or less than 3.5 times the RL for the solid matrix. All QC criteria were met. No qualifications are placed on the data.

## 9. Laboratory Control Sample (LCS):

The laboratory analyzed an LCS and recoveries were within the control limits provided. No qualifications are placed on the data.

# 10. Target Compound Identification, Quantitation, and Reporting Limits:

Concentrations of all reported compounds were correctly calculated.

The %D between the column results were within the acceptance limits (≤25). No qualifications are placed on the data.

## 11. Laboratory Contact:

No laboratory contact was required.

#### 12. Overall Assessment:

The analytical data is acceptable for use without qualification.

# DATA QUALITY ASSURANCE REVIEW

SITE NAME	Frank J. Doy	yle Salvage Removal Actio	n	
WORK ORDER	NUMBER	20600.012.001.1175.01	TDD NUMBE	ER 0001/18-175
PROJECT NUM	IBER		SDG NUMBE	ER HS18110844
20600.012.001.1175	.01; SDG No	. HS18110844; Frank J. Do	yle Salvage Re	ew for Work Order Number emoval Action. Nine samples wer mental. Sample numbers are listed
		SAMPLE NUM	BERS	
DRA06-20181115-12	2-57	DRA06-20181115-12-56	EAS	04-20181115-06-56
FJD02-05B-2018111	5-06-56	FJD02-06-20181115-06-56	FJD0	)2-10S-20181115-12-56
FJD03-01-20181115-	-06-56	FJD03-03-20181115-06-56	FJD0	05-03A-20181115-06-56
USEPA National Fu National Functional Laboratory Program (April, 2016), Quali	nctional Guia l Guidelines n National Fi ty Assurance/ col for Holdi	lelines for Organic Superfu for Inorganic Superfund unctional Guidelines for E Quality Control Guidance ng Times, Blanks, and Vo	nd Methods Da Data Review ( Iigh Resolution for Removal A	ifications were achieved, following ta Review (January, 2017), USEPA Contract Superfund Methods Data Review ctivities (September, 2011), and/on (April 13, 1989). Specific data
REVIEWER	Gloria J. Sw	italski	DAT	E

### **Data Qualifiers**

Data Qualifier Definitions were supplied by the Office of Solid Waste and Emergency Response (September 1989) and are included in the Functional Guidelines. Data qualifiers may be combined (UJ, QJ) with the corresponding combination of meanings. Additional qualifiers may be added to provide additional, more specific information (JL, UB, QJK), modifying the meaning of the primary qualifier. Additional qualifiers utilized by WESTON are H, L, K, B, and Q.

U - The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation or detection limit, which has been adjusted for sample weight/sample volume, extraction volume, percent solids, sample dilution or other analysis specific parameters.

An additional qualifier, "B", may be appended to indicate that while the analyte was detected in the sample, the presence of the analyte may be attributable to blank contamination and the analyte is therefore considered undetected with the sample detection or quantitation limit for the analyte being elevated.

J - The analyte was analyzed for, but the associated numerical value may not be consistent with the amount actually present in the environmental sample or may not be consistent with the sample detection or quantitation limit. The value is an estimated quantity. The data should be seriously considered for decision-making and are usable for many purposes.

An additional qualifier will be appended to the "J" qualifier that indicates the bias in the reported results:

- L Low bias
- H High bias
- K Unknown bias
- Q The reported concentration is less than the sample quantitation limit for the specific analyte in the sample.

The L and H qualifier will only be employed when a single qualification is required. When more than one quality control parameter affects the analytical result and a conflict results in assigning a bias, the result will be flagged JK.

- R Quality Control indicates that data are unusable for all purposes. The analyte was analyzed for, but the presence or absence of the analyte has not been verified. Resampling and reanalysis are necessary for verification to confirm or deny the presence of an analyte.
- N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

#### PAH FRACTION EVALUATION

# 1. Analytical Method:

Samples were prepared and analyzed using the procedures specified in **SW-846 Method 8270D selective ion monitoring (SIM).** 

# 2. Holding Time:

The samples were received within the recommended  $\leq$ 6°C NFG limit. All samples were extracted within the required holding time of less than 7 days for waters and less than 14 days for solids/wastes after collection. Analysis of the samples was conducted within 40 days of extraction. No qualifications are placed on the data.

# 3. Tuning/Performance:

DFTPP tuning of the mass spectrometer(s) was conducted at the required frequency and results were within the required criteria. No qualifications are placed on the data.

#### 4. Initial Calibration:

All individual relative response factors (RRFs) and average RRFs for the initial calibration (IC) were greater than the compound dependent (see Table 34 of National Functional Guidelines) control limits. All percent relative standard deviations (%RSDs) were less than the compound dependent (see Table 34 of National Functional Guidelines) control limits or the correlation coefficient was > 0.990. No qualifications are placed on the data.

# 5. Continuing Calibration:

All individual RRFs for the initial calibration verification (ICV) and continuing calibration (CC) standards were greater than the compound dependent (see Table 34 of National Functional Guidelines) control limits. All percent differences (%Ds) were less than the compound dependent (see Table 34 of National Functional Guidelines) control limits. No qualifications are placed on the data.

#### 6. Blanks:

# A. Laboratory Blanks:

A method blank was prepared at the required frequency of every time samples were extracted for each matrix and concentration or every 20 samples whichever is greater. Target analytes were not detected in the method at concentrations that warrant blank action. No qualifications are placed on the data.

#### B Field Blanks:

No field blank samples were submitted with this analytical package. No qualifications are placed on the data.

## 7. System Monitoring Compounds (SMC):

All recoveries of the system monitoring compounds (surrogates) were within the control limits provided. No qualifications are placed on the data.

## 8. Duplicates:

# A. Laboratory Duplicate Analysis:

Sample FJD05-03A-20181115-06-56 underwent matrix spike/matrix spike duplicate (MS/MSD) analysis for the solid matrix. QC criteria are that the relative percent difference (RPD) values for the duplicate sample analysis are less than 20% for aqueous samples and less than 35% for solid samples. All QC criteria were met. No qualifications are placed on the data.

## B. Field Duplicate Analysis:

The following sample pair was submitted as field duplicates for the solid matrix: DRA06-20181115-12-57/DRA06-20181115-12-56. QC criteria are that the RPD values for the field duplicate sample analysis be less than 30% for aqueous samples and less than 50% for solid samples for concentrations greater than five times the reporting limit (RL). For sample concentrations less than five times the RL, the QC criteria are that the absolute difference between the samples is less than two times the RL for aqueous samples or less than 3.5 times the RL for the solid matrix. All QC criteria were met. No qualifications are placed on the data.

# 9. Matrix Spike/Matrix Spike Duplicate:

Sample FJD05-03A-20181115-06-56 underwent MS/MSD analysis for the solid matrix. Recoveries of all spiked analytes were within the control limits provided in both the matrix spike and matrix spike duplicate. No qualifications are placed on the data.

#### 10. Internal Standards:

Areas of the six internal standards were within the control limits of a factor of 2 (-50% to +100%) and retention times were within 30 seconds from the associated 12 hour calibration standard. No qualifications are placed on the data.

## 11. Laboratory Control Sample (LCS):

The laboratory analyzed an LCS and recoveries were within the control limits provided. No qualifications are placed on the data.

#### 12. Target Compound Identification:

All target compounds reported by the laboratory met identification criteria of relative retention times (RRT) within 0.06 RRT units of the 12 hour standard and that all ions present in the standard mass spectrum were present in the sample mass spectrum and the abundance of these ions agreed within  $\pm$  20% of the standard. No qualifications are placed on the data.

## 13. Target Compound Quantitation and Reporting Limits:

Concentrations of all reported compounds were correctly calculated.

Reported concentrations less than the RL qualified "J" by the laboratory are qualified "JQ" to indicate that the result is less than the RL but greater than the method detection limit (MDL).

# 14. Laboratory Contact:

The laboratory was contacted on December 13, 2018 regarding the lack for a prep page. An acceptable response was received on December 21, 2018.

# 15. Overall Assessment

Reported concentrations less than the RL qualified "J" by the laboratory were qualified "JQ" to indicate that the result is less than the RL but greater than the MDL.

The analytical data is acceptable for use with the qualifications listed above.

# DATA QUALITY ASSURANCE REVIEW

SITE NAME Frank J. Doyle Salvage Removal Action

WORK ORDER NUMBE	R 20600.012.001.1175.01	TDD NUMBER	0001/18-175		
PROJECT NUMBER		SDG NUMBER	HS18110844		
20600.012.001.1175.01; SDG		oyle Salvage Remov	for Work Order Number val Action. Nine samples were numbers are listed below.		
	SAMPLE NUM	BERS			
DRA06-20181115-12-57	DRA06-20181115-12-56	EAS04-20	0181115-06-56		
FJD02-05B-20181115-06-56	FJD02-06-20181115-06-56	FJD02-10	OS-20181115-12-56		
FJD03-01-20181115-06-56	FJD03-03-20181115-06-56	FJD05-03	3A-20181115-06-56		
USEPA National Functional C National Functional Guidelin Laboratory Program National (April, 2016), Quality Assuran	Guidelines for Organic Superfunes for Inorganic Superfund of Functional Guidelines for Hance/Quality Control Guidance olding Times, Blanks, and Vo	nd Methods Data R Data Review (Janu High Resolution Sup for Removal Activi	tions were achieved, following eview (January, 2017), USEPA contract perfund Methods Data Review ties (September, 2011), and/or April 13, 1989). Specific data		
•	Switalski	DATE	December 26, 2018		
TIE : IE :: EIX			2000000		

# **Data Qualifiers**

Data Qualifier Definitions were supplied by the Office of Solid Waste and Emergency Response (September 1989) and are included in the Functional Guidelines. Data qualifiers may be combined (UJ, QJ) with the corresponding combination of meanings. Additional qualifiers may be added to provide additional, more specific information (JL, UB, QJK), modifying the meaning of the primary qualifier. Additional qualifiers utilized by WESTON are H, L, K, B, and Q.

U - The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation or detection limit, which has been adjusted for sample weight/sample volume, extraction volume, percent solids, sample dilution or other analysis specific parameters.

An additional qualifier, "B", may be appended to indicate that while the analyte was detected in the sample, the presence of the analyte may be attributable to blank contamination and the analyte is therefore considered undetected with the sample detection or quantitation limit for the analyte being elevated.

J - The analyte was analyzed for, but the associated numerical value may not be consistent with the amount actually present in the environmental sample or may not be consistent with the sample detection or quantitation limit. The value is an estimated quantity. The data should be seriously considered for decision-making and are usable for many purposes.

An additional qualifier will be appended to the "J" qualifier that indicates the bias in the reported results:

- L Low bias
- H High bias
- K Unknown bias
- Q The reported concentration is less than the sample quantitation limit for the specific analyte in the sample.

The L and H qualifier will only be employed when a single qualification is required. When more than one quality control parameter affects the analytical result and a conflict results in assigning a bias, the result will be flagged JK.

- R Quality Control indicates that data are unusable for all purposes. The analyte was analyzed for, but the presence or absence of the analyte has not been verified. Resampling and reanalysis are necessary for verification to confirm or deny the presence of an analyte.
- N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

#### METALS DATA EVALUATION

### 1. Analytical Method:

Samples were prepared and analyzed for ICP metals using the procedures specified in SW-846 Method 6020A.

# 2. Holding Times:

All samples met established holding time criteria of 180 days for ICP metals. No qualifications are placed on the data.

#### 3. Initial Calibration:

ICP initial calibration included a blank and five standards and initial calibration verification results fell within the control limits of 90% to 110% of the true values. No qualifications are placed on the data.

# 4. Continuing Calibration:

All ICP results fell within the control limits of 90% to 110% of the true values. No qualifications are placed on the data.

#### 5. CRDL Standard:

All results for the CRDL standard were within the control limits of 70% to 130% of the true values or the sample results were greater than the CRDL action level. No qualifications are placed on the data.

#### 6. Blanks:

#### A. Laboratory Blanks:

A method blank was prepared at the required frequency of every time samples were prepared/digested for each matrix or every 20 samples whichever is greater. Target analytes were not detected in the method and calibration blanks at concentrations that warrant blank action. No qualifications are placed on the data.

#### B. Field Blanks:

No field blank samples were submitted with this analytical package. No qualifications are placed on the data.

#### 7. ICP Interference Check:

All results for the interference check sample were within the control limits of 80% to 120% of the true values. No qualifications are placed on the data.

#### 8. Laboratory Control Sample (LCS):

The recoveries for the LCS were within the control limits provided. No qualifications are placed on the data.

# 9. Duplicate Sample Analysis:

## A. Laboratory Duplicate Analysis:

Sample FJD05-03A-20181115-06-56 underwent matrix spike/matrix spike duplicate (MS/MSD) analysis for ICP metals for the solid matrix. QC criteria are that the RPD values for the duplicate sample analysis are less than 20% for aqueous samples and less than 35% for solid samples. All QC criteria were met with the following exception:

ANALYTE	MATRIX	RPD	AFFECTED SAMPLES*	QUALIFIER FLAG
Iron	Solid	52.3	All	JK

## B. Field Duplicate Analysis:

The following sample pair was submitted as field duplicates for the solid matrix: DRA06-20181115-12-57/DRA06-20181115-12-56. QC criteria are that the RPD values for the field duplicate sample analysis be less than 30% for aqueous samples and less than 50% for solid samples for concentrations greater than five times the reporting limit (RL). For sample concentrations less than five times the RL, the QC criteria are that the absolute difference between the samples is less than two times the RL for aqueous samples or less than 3.5 times the RL for the solid matrix. All QC criteria were met. No qualifications are placed on the data.

#### 10. Spiked Sample Analysis:

Sample FJD05-03A-20181115-06-56 underwent MS/MSD analysis for ICP metals for the solid matrix. The spike recoveries for the all analytes were within the 75%-125% QC recovery limits for analytes whose sample concentration did not exceed the spike concentration by a factor of 4 times or more. No qualifications are placed on the data.

The post digestion spike recoveries were acceptable. No qualifications are placed on the data.

#### 11. ICP Serial Dilution:

Sample FJD05-03A-20181115-06-56 underwent serial dilution for the solid matrix for ICP metals. The percent difference (%D) values for serial dilution analysis were within the QC limits of 10% for all analytes whose concentrations were greater than 50 times their method detection limit (MDL). No qualifications are placed on the data.

#### 12. Sample Quantitation and Reporting Limits:

Concentrations of all reported analytes were correctly calculated.

Reported concentrations less than the RL qualified "J" by the laboratory are qualified "JQ" to indicate that the result is less than the RL but greater than the MDL.

Some ICP metals analytes in some samples were analyzed at a 5, 10, 50, or 100-fold dilution. Reporting limits for these analytes in these samples were elevated as a result of the dilutions performed.

# 13. Laboratory Contact

The laboratory was contacted on December 13, 2018 regarding the lack of a sequence log and prep page. An acceptable response was received on December 21, 2018.

# 14. Overall Assessment:

The iron result in all samples was qualified due to high MS/MSD RPD.

Reported concentrations less than the RL qualified "J" by the laboratory were qualified "JQ" to indicate that the result is less than the RL but greater than the MDL.

The analytical data is acceptable for use with the qualifications listed above.

Weston Solutions, Inc.

DRA06-20181115-12-57

Project:

FJ Doyle RA/TX

Sample ID: Collection Date:

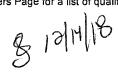
15-Nov-2018 12:33

**ANALYTICAL REPORT** 

WorkOrder:HS18110844 Lab ID:HS18110844-01

Matrix:Soil

Collection Date.	13-1404-2016 1	2.00		IVic	Wattix.Soli				
ANALYSES	RESULT	QUAL MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED			
LOW-LEVEL PAHS		Method:SW8270		Prep:SW3541 / *	6-Nov-2018	Analyst: GEY			
Acenaphthene	U	0.00065	0.0043	mg/Kg-dry	1	19-Nov-2018 13:12			
Acenaphthylene	U	0.0013	0.0043	mg/Kg-dry	1 .	19-Nov-2018 13:12			
Anthracene	U	0.00065	0.0043	mg/Kg-dry	1	19-Nov-2018 13:12			
Benz(a)anthracene	U	0.0021	0.0043	mg/Kg-dry	1	19-Nov-2018 13:12			
Benzo(a)pyrene	U	0.0013	0.0043	mg/Kg-dry	.1	19-Nov-2018 13:12			
Benzo(b)fluoranthene	U	0.0016	0.0043	mg/Kg-dry	1	19-Nov-2018 13:12			
Benzo(g,h,i)perylene	U ,	0.00092	0.0043	mg/Kg-dry	1	19-Nov-2018 13:12			
Benzo(k)fluoranthene	U	0.0012	0.0043	mg/Kg-dry	1	19- <b>N</b> ov-2018 13:12			
Chrysene	U	0.0010	0.0043	mg/Kg-dry	1	19-Nov-2018 13:12			
Dibenz(a,h)anthracene	Ü	0,0021	0.0043	mg/Kg-dry	1	19-Nov-2018 13:12			
Fluoranthene	U	0.0014	0.0043	mg/Kg-dry	1	19-Nov-2018 13:12			
Fluorene	uu	0.0014	0.0043	mg/Kg-dry	1	19-Nov-2018 13:12			
Indeno(1,2,3-cd)pyrene	U	0.0010	0.0043	mg/Kg-dry	1	19-Nov-2018 13:12			
Naphthalene	0.0013	15Q 0.00079	0.0043	mg/Kg-dry	1	19-Nov-2018 13:12			
Phenanthrene	U	0.0020	0.0043	mg/Kg-dry	1	19-Nov-2018 13:12			
Pyrene	U	0.00079	0.0043	mg/Kg-dry	1	19-Nov-2018 13:12			
Surr: 2-Fluorobiphenyl	68.5		43-125	%REC	1	19-Nov-2018 13:12			
Surr: 4-Terphenyl-d14	76.2		32-125	%REC	1	19-Nov-2018 13:12			
Surr: Nitrobenzene-d5	66.0		37-125	%REC	1	19-Nov-2018 13:12			
PCBS BY SW8082A		Method:SW8082	and the second section is	Prep:SW3541/36	65A / 16-Nov	-2018 Analyst: JBA			
Aroclor 1016	U	0.0055	0.022	mg/Kg-dry	1	18-Nov-2018 11:50			
Aroclor 1221	U	0.0073	0.022	mg/Kg-dry	1	18-Nov-2018 11:50			
Aroclor 1232	U	0.0059	0.022	mg/Kg-dry	,1 ,	18-Nov-2018 11:50			
Aroclor 1242	U	0.0077	0.022	mg/Kg-dry	1	18-Nov-2018 11:50			
Aroclor 1248	U	0.0077	0.022	mg/Kg-dry	1	18-Nov-2018 11:50			
Aroclor 1254	U	0.0061	0.022	mg/Kg-dry	1	18-Nov-2018 11:50			
Aroclor 1260	U	0.0052	0.022	mg/Kg-dry	1	18-Nov-2018 11:50			
Surr: Decachlorobiphenyl	102		54-143	%REC	1	18-Nov-2018 11:50			
Surr: Tetrachloro-m-xylene	89.3		50-140	%REC	1	18-Nov-2018 11:50			
METALS BY SW6020A		Method:SW6020		Prep:SW3050A	16-Nov-2018	Analyst: ALR			
Arsenic	17.4	0.0897	0.641		7553960 <b>0222</b> 0403535555	17 <b>-N</b> ov-2018 11:15			
Cadmium	2.50	0.0346	0.641	mg/Kg-dry	1	17-Nov-2018 11:15			
Cobalt	8.37	0.0192	0.641		1	17-Nov-2018 11:15			
iron	13,900		. 64.1	mg/Kg-dry	***********************************	17-Nov-2018 11:15			
Lead	108	0.0167	0.641			17-Nov-2018 11:15			
Manganese	1,130	2.76	32.1	0. 000.000.000.000.0000.0000.0000.0000	200 CCN CC CCCCCCCCCCCCC VII ARCA (8-500)	17 <b>-N</b> ov-2018 14:42			
MOISTURE - ASTM D2216		lethod:ASTM D2216				Analyst: KVL			
Percent Moisture	23.8	0.0100	0.0100	wt%	1	17-Nov-2018 11:18			
				*****	-				



Weston Solutions, Inc.

Project:

FJ Doyle RA/TX

Sample ID:

DRA06-20181115-12-56

Collection Date:

15-Nov-2018 12:33

**ANALYTICAL REPORT** 

WorkOrder:HS18110844 Lab ID:HS18110844-02

Matrix:Soil

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL PAHS		Method:	SW8270	1	Prep:SW3541 / 1	6-Nov-2018	Analyst: GEY
Acenaphthene	U	***************************************	0.00065	0.0043	mg/Kg-dry	1	19-Nov-2018 13:32
Acenaphthylene	U	A.F. gagagaineannaid de deillearranna	0.0013	0.0043	mg/Kg-dry	1	19-Nov-2018 13:32
Anthracene	U		0.00065	0.0043	mg/Kg-dry	1	19-Nov-2018 13:32
Benz(a)anthracene	U		0.0021	0.0043	mg/Kg-dry	1	19-Nov-2018 13:32
Benzo(a)pyrene	0.0021	95√	0.0013	0.0043	mg/Kg-dry	1	19-Nov-2018 13:32
Benzo(b)fluoranthene	0.0029	A	0.0016	0.0043	mg/Kg-dry	1	19-Nov-2018 13:32
Benzo(g,h,i)perylene	0.0035	d	0.00091	0.0043	mg/Kg-dry	1 ,	19-Nov-2018 13:32
Benzo(k)fluoranthene	0.0014	ا در	0.0012	0.0043	mg/Kg-dry	1	19- <b>N</b> ov-2018 13:32
Chrysene	0.0019	81	0.0010	0.0043	mg/Kg-dry	1	19-Nov-2018 13:32
Dibenz(a,h)anthracene	U		0.0021	0.0043	mg/Kg-dry	1	19-Nov-2018 13:32
Fluoranthene	0.0016	JC 1	0.0014	0.0043	mg/Kg-dry	1	19-Nov-2018 13:32
Fluorene	U	Mar-4-00000 000000-0	0.0014	0.0043	mg/Kg-dry	1	19- <b>N</b> ov-2018 13:32
Indeno(1,2,3-cd)pyrene	0.0021	4 20	0.0010	0.0043	mg/Kg-dry	1	19-Nov-2018 13:32
Naphthalene	U	Color communication (St. 1961) (1961)	0.00078	0.0043	mg/Kg-dry	1	19-Nov-2018 13:32
Phenanthrene	U		0.0020	0.0043	mg/Kg-dry	1	19-Nov-2018 13:32
Pyrene	0.0016	8 J.	0.00078	0.0043	mg/Kg-dry	1	19-Nov-2018 13:32
Surr: 2-Fluorobiphenyl	69.5		•	43-125	%REC	1	19-Nov-2018 13:32
Surr: 4-Terphenyl-d14	80.3			32-125	%REC	1	19-Nov-2018 13:32
Surr: Nitrobenzene-d5	62.8			37-125	%REC	1	19-Nov-2018 13:32
PCBS BY SW8082A		Method:	SW8082		Prep:SW3541/36	65A / 16-Nov	-2018 Analyst: JBA
Aroclor 1016	U	× 77, 245, 245, 255, 257, 256	0.0055	0.022	mg/Kg-dry	1	18-Nov-2018 14:11
Aroclor 1221	U		0.0074	0.022	mg/Kg-dry	1	18-Nov-2018 14:11
Aroclor 1232	U		0.0059	0.022	mg/Kg-dry	1	18-Nov-2018 14:11
Aroclor 1242	U	,	0.0078	0.022	mg/Kg-dry	1	18-Nov-2018 14:11
Aroclor 1248	U		0.0078	0.022	mg/Kg-dry	1	18-Nov-2018 14:11
Aroclor 1254	U		0.0062	0.022	mg/Kg-dry	1	18-Nov-2018 14:11
Aroclor 1260	U		0.0053	0.022	mg/Kg-dry	1	18-Nov-2018 14:11
Surr: Decachlorobiphenyl	98.6			54-143	%REC	1	18-Nov-2018 14:11
Surr: Tetrachloro-m-xylene	86.1			50-140	%REC	1	18-Nov-2018 14:11
METALS BY SW6020A	THE CO.	Method:	SW6020		Prep:SW3050A /	16-Nov-2018	Analyst: ALR
Arsenic	21.3		0.0886	0.633	mg/Kg-dry	1	17-Nov-2018 12:20
Cadmium	1.71	St. COLORON - AND TO STATE OF THE STATE OF T	0.0342	0.633	mg/Kg-dry	1	17-Nov-2018 12:20
Cobalt	11.2		0.0190	0.633	mg/Kg-dry	1	17-Nov-2018 12:20
Iron	15,200	₫¥-	2.32	63.3	mg/Kg-dry	1	17-Nov-2018 12:20
Lead	79.9		0.0165	0.633	mg/Kg-dry	1	17-Nov-2018 12:20
Manganese	1,370	**************************************	5.44	63.3	mg/Kg-dry	100	17-Nov-2018 14:44
MOISTURE - ASTM D2216	ì	Method:AS	TM D2216	777			Analyst: KVL
Percent Moisture	24.7		0.0100	0.0100	wt%	1	17-Nov-2018 11:18

Weston Solutions, Inc.

Project:

FJ Doyle RA/TX

Sample ID:

EAS03-20181115-06-56

Collection Date:

15-Nov-2018 11:40

**ANALYTICAL REPORT** 

WorkOrder:HS18110844 Lab ID:HS18110844-03

Matrix:Soil

					DILUTION	DATE	
ANALYSES	RESULT C	QUAL MDL	REPORT LIMIT	UNITS	FACTOR	ANALYZED	
LOW-LEVEL PAHS	1	Method:SW8270		Prep:SW3541 / 1	6-Nov-2018	Analyst GEY	
Acenaphthene	U	0.00063	0.0041	mg/Kg-dry	1	19-Nov-2018 16:47	
Acenaphthylene	U	0.0013	0.0041	mg/Kg-dry	1	19-Nov-2018 16:47	
Anthracene	0.0022	₹26 0.000e3	0.0041	mg/Kg-dry	1	19-Nov-2018 16:47	
Benz(a)anthracene	0.0055	0.0020	0.0041	mg/Kg-dry	1	19-Nov-2018 16:47	
Benzo(a)pyrene	0.0055	0.0013	0.0041	mg/Kg-dry	1	19-Nov-2018 16:47	
Benzo(b)fluoranthene	0.0088	0.0015	0.0041	mg/Kg-dry	1	19-Nov-2018 16:47	
Benzo(g,h,i)perylene	0.010	0.00088	0.0041	mg/Kg-dry	1	19-Nov-2018 16:47	
Benzo(k)fluoranthene	0.0042	0.0011	0.0041	mg/Kg-dry	1	19-Nov-2018 16:47	
Chrysene	0.0065	0.0010	0.0041	mg/Kg-dry	1	19-Nov-2018 16:47	
Dibenz(a,h)anthracene	0.0077	0.0020	0.0041	mg/Kg-dry	1	19-Nov-2018 16:47	
Fluoranthene	0.0074	0.0014	0.0041	mg/Kg-dry	1	19-Nov-2018 16:47	
Fluorene	U	0.0014	0.0041	mg/Kg-dry	1	19-Nov-2018 16:47	
Indeno(1,2,3-cd)pyrene	0.0085	0.0010	0.0041	mg/Kg-dry	1	19-Nov-2018 16:47	
Naphthalene	0.00097	J JQ 0.00075	0.0041	mg/Kg-dry	1	19-Nov-2018 16:47	
Phenanthrene	0.0080	0.0019	0.0041	mg/Kg-dry	1	19-Nov-2018 16:47	
Pyrene	0.010	0.00075	0.0041	mg/Kg-dry	1	19-Nov-2018 16:47	
Surr: 2-Fluorobiphenyl	67.5		43-125	%REC	1	19-Nov-2018 16:4	
Surr: 4-Terphenyl-d14	89.1	2000-2000 - 1000-2000-2000-2000-2000-200	32-125	%REC	1	19-Nov-2018 16:4	
Surr: Nitrobenzene-d5	66.7		37-125	%REC	1	19-Nov-2018 16:4	
PCBS BY SW8082A		Method:SW8082		Prep:SW3541/36	55A / 16-Nov	-2018 Analyst: JBA	
Aroclor 1016	U	0.0053	0.021	mg/Kg-dry	1	18-Nov-2018 14:2	
Aroclor 1221	U	0.0071	0.021	mg/Kg-dry	1	18-Nov-2018 14:2	
Aroclor 1232	U	0.0057	0.021	mg/Kg-dry	1	18-Nov-2018 14:2	
Aroclor 1242	U	0.0075	0.021	mg/Kg-dry	1	18-Nov-2018 14:2	
Aroclor 1248	U	0.0075	0.021	mg/Kg-dry	1	18-Nov-2018 14:27	
Aroclor 1254	U	0.0060	0.021	mg/Kg-dry	1	18-Nov-2018 14:2	
Aroclor 1260	0.047	0.0051	0.021	mg/Kg-dry	1	18-Nov-2018 14:27	
Surr: Decachlorobiphenyl	108		54-143	%REC	1	18-Nov-2018 14:2	
Surr: Tetrachloro-m-xylene	97.4		50-140	%REC	1	18-Nov-2018 14:2	
METALS BY SW6020A	1	Method:SW6020	18 27	Prep:SW3050A /	16-Nov-2018	Analyst: ALF	
Arsenic	8.62	0.0841	0.601	mg/Kg-dry	1	17-Nov-2018 12:22	
Cadmium	0.794	0.0324	0.601	mg/Kg-dry	1	17-Nov-2018 12:22	
Cobalt	7.45	0.0180	0.601	mg/Kg-dry	1	17-Nov-2018 12:22	
iron	13,800 덛	TK	60.1	mg/Kg-dry	1	17-Nov-2018 12:22	
Lead	64.2	0.0156	0.601	mg/Kg-dry	1	17-Nov-2018 12:22	
Manganese	1,290	5.17	60.1	mg/Kg-dry	100	17-Nov-2018 14:46	
MOISTURE - ASTM D2216	Me	thod:ASTM D2216	2009			Analyst: KVL	
Percent Moisture	21.8	0.0100	0.0100	wt%	1	17-Nov-2018 11:18	

Note: See Qualifiers Page for a list of qualifiers and their explanation.

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Weston Solutions, Inc.

Project:

FJ Doyle RA/TX

Sample ID:

FJD02-05B-20181115-06-56

Collection Date:

15-Nov-2018 11:47

**ANALYTICAL REPORT** 

WorkOrder:HS18110844 Lab ID:HS18110844-04

Matrix:Soil

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL PAHS	The second	Method:S	W8270	198	Prep:SW3541 / 1	6-Nov-2018	Analyst: GEY
Acenaphthene	U		0.00063	0.0041	mg/Kg-dry	1	19-Nov-2018 14:11
Acenaphthylene	U		0.0013	0.0041	mg/Kg-dry	1	19-Nov-2018 14:11
Anthracene	0.00097	+ JR	0.00063	0.0041	mg/Kg-dry	1	19-Nov-2018 14:11
Benz(a)anthracene	0.0024	8	0.0020	0.0041	mg/Kg-dry	1	19-Nov-2018 14:11
Benzo(a)pyrene	0.0023	4	0.0013	0.0041	mg/Kg-dry	1	19-Nov-2018 14:11
Benzo(b)fluoranthene	0.0037	8	0.0015	0.0041	mg/Kg-dry	1	19-Nov-2018 14:11
Benzo(g,h,i)perylene	0.0024	8	0.00088	0.0041	mg/Kg-dry	1	19-Nov-2018 14:11
Benzo(k)fluoranthene	0.0017	1	0.0011	0.0041	mg/Kg-dry	1	19-Nov-2018 14:11
Chrysene	0.0024	4	0.0010	0.0041	mg/Kg-dry	1	19-Nov-2018 14:11
Dibenz(a,h)anthracene	U	gyppper announcepaptyr pro-try, orac y	0.0020	0.0041	mg/Kg-dry	1	19-Nov-2018 14:11
Fluoranthene	0.0039	\$ 30	0.0014	0.0041	mg/Kg-dry	1	19-Nov-2018 14:11
Fluorene	U		0.0014	0.0041	mg/Kg-dry	1	19-Nov-2018 14:11
Indeno(1,2,3-cd)pyrene	0.0012	+ 76	0.0010	0.0041	mg/Kg-dry	1	19-Nov-2018 14:11
Naphthalene	U		0.00075	0.0041	mg/Kg-dry	1	19-Nov-2018 14:11
Phenanthrene	0.0028	4 20	0.0019	0.0041	mg/Kg-dry	1	19-Nov-2018 14:11
Pyrene	0.0034		0.00075	0.0041	mg/Kg-dry	1	19-Nov-2018 14:11
Surr: 2-Fluorobiphenyl	73.0			43-125	%REC	1	19-Nov-2018 14:11
Surr: 4-Terphenyl-d14	86.0			32-125	%REC	1	19-Nov-2018 14:11
Surr: Nitrobenzene-d5	65.1			37-125	%REC	1	19-Nov-2018 14:11
PCBS BY SW8082A		Method:S	W8082	7.04 P	Prep:SW3541/36	65A / 16-Nov	-2018 Analyst: JBA
Aroclor 1016	U	51124	0.0053	0.021	mg/Kg-dry	1	18-Nov-2018 14:42
Aroclor 1221	U		0.0070	0.021	mg/Kg-dry	1	18-Nov-2018 14:42
Aroclor 1232	U		0.0057	0.021	mg/Kg-dry	1	18-Nov-2018 14:42
Aroclor 1242	U		0.0074	0.021	mg/Kg-dry	1	18-Nov-2018 14:42
Aroclor 1248	U		0.0074	0.021	mg/Kg-dry	1	18-Nov-2018 14:42
Aroclor 1254	U		0.0059	0.021	mg/Kg-dry	1	18-Nov-2018 14:42
Aroclor 1260	U		0.0050	0.021	mg/Kg-dry	1	18-Nov-2018 14:42
Surr: Decachlorobiphenyl	98.3			54-143	%REC	1	18-Nov-2018 14:42
Surr: Tetrachloro-m-xylene	89.2			50-140	%REC	1	18-Nov-2018 14:42
METALS BY SW6020A		Method:S	W6020		Prep SW3050A /	16-Nov-2018	Analyst: ALR
Arsenic	14.9		0.0863	0.617	mg/Kg-dry	464 - 100000000000000	17-Nov-2018 12:24
Cadmium	0.323	AJQ	0.0333	0.617	mg/Kg-dry	1	17-Nov-2018 12:24
Cobalt	7.83	,	0.0185	0.617	mg/Kg-dry	1	17-Nov-2018 12:24
ron	13,700	ひと	2.26	61.7	mg/Kg-dry	*******	17-Nov-2018 12:24
Lead	15.7		0.0160	0.617	mg/Kg-dry		17-Nov-2018 12:24
Manganese	1,100		2.65	30.8	mg/Kg-dry		17-Nov-2018 14:48
MOISTURE - ASTM D2216	A	//ethod:AST					Analyst: KVL
Percent Moisture	21.2		0.0100	0.0100	wt%	1	17-Nov-2018 11:18

Note: See Qualifiers Page for a list of qualifiers and their explanation.

& MIND

Client: Project: Weston Solutions, Inc.

FJ Doyle RA/TX

Sample ID:

FJD02-06-20181115-06-56

Collection Date:

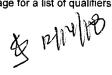
15-Nov-2018 11:55

**ANALYTICAL REPORT** 

WorkOrder:HS18110844 Lab ID:HS18110844-05

Matrix:Soil

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL PAHS	and a state of the	Method:	SW8270		Prep:SW3541 / 1	6-Nov-2018	Analyst: GEY
Acenaphthene	U		0.00063	0.0042	mg/Kg-dry	1	19-Nov-2018 14:30
Acenaphthylene	U		0.0013	0.0042	mg/Kg-dry	1	19-Nov-2018 14:30
Anthracene	U		0.00063	0.0042	mg/Kg-dry	1	19-Nov-2018 14:30
Benz(a)anthracene	U	erence are entered as a superior supply of the entered	0.0020	0.0042	mg/Kg-dry	1	19-Nov-2018 14:30
Benzo(a)pyrene	U		0.0013	0.0042	mg/Kg-dry	1	19-Nov-2018 14:30
Benzo(b)fluoranthene	U	\$2000.000000000000000000000000000000000	0.0015	0.0042	mg/Kg-dry	1	19-Nov-2018 14:30
Benzo(g,h,i)perylene	U		0.00089	0.0042	mg/Kg-dry	1	19-Nov-2018 14:30
Benzo(k)fluoranthene	U		0.0011	0.0042	mg/Kg-dry	1	19-Nov-2018 14:30
Chrysene	U		0.0010	0.0042	mg/Kg-dry	1	19-Nov-2018 14:30
Dibenz(a,h)anthracene	U	NOCONCONO NECESCO DE LO DESCRIPTO DE LA PERSONA DE LA PERS	0.0020	0.0042	mg/Kg-dry	1	19-Nov-2018 14:30
Fluoranthene	U		0.0014	0.0042	mg/Kg-dry	1	19-Nov-2018 14:30
Fluorene	U	e i de la companya d	0.0014	0.0042	mg/Kg-dry	1	19-Nov-2018 14:30
Indeno(1,2,3-cd)pyrene	U		0.0010	0.0042	mg/Kg-dry	1	19-Nov-2018 14:30
Naphthalene	U	***************************************	0.00076	0.0042	mg/Kg-dry	1	19-Nov-2018 14:30
Phenanthrene	U		0.0019	0.0042	mg/Kg-dry	1	19-Nov-2018 14:30
Pyrene	U	**************************************	0.00076	0.0042	mg/Kg-dry	1	19-Nov-2018 14:30
Surr: 2-Fluorobiphenyl	66.4			43-125	%REC	1	19-Nov-2018 14:30
Surr: 4-Terphenyl-d14	80.1	***************************************		32-125	%REC	1	19-Nov-2018 14:30
Surr: Nitrobenzene-d5	63.9			37-125	%REC	1	19-Nov-2018 14:30
PCBS BY SW8082A		Method:	SW8082		Prep:SW3541/36	65A / 16-Nov	-2018 Analyst: JBA
Aroclor 1016	U	Commission of the Association of	0.0053	0.021	mg/Kg-dry	1	18-Nov-2018 14:58
Aroclor 1221	U		0.0071	0.021	mg/Kg-dry	1	18-Nov-2018 14:58
Aroclor 1232	U		0.0057	0.021	mg/Kg-dry	1	18-Nov-2018 14:58
Aroclor 1242	U		0.0075	0.021	mg/Kg-dry	1	18-Nov-2018 14:58
Aroclor 1248	U		0.0075	0.021	mg/Kg-dry	1 .	18-Nov-2018 14:58
Aroclor 1254	U		0.0060	0.021	mg/Kg-dry	1	18-Nov-2018 14:58
Aroclor 1260	U		0.0051	0.021	mg/Kg-dry	1	18-Nov-2018 14:58
Surr: Decachlorobiphenyl	99.8		TTT AT A SANT TAKEN THE TOTAL THE SANT	54-143	%REC	1	18-Nov-2018 14:58
Surr: Tetrachloro-m-xylene	91.8			50-140	%REC	1	18-Nov-2018 14:58
METALS BY SW6020A		Method:S	SW6020		Prep.SW3050A	16-Nov-2018	Analyst: ALR
Arsenic	25.5		0.0824	0.589	mg/Kg-dry	1	17-Nov-2018 12:26
Cadmium	0.511	2 ED	0.0318	0.589	mg/Kg-dry	1	17-Nov-2018 12:26
Cobalt	11.1		0.0177	0.589	mg/Kg-dry	1	17-Nov-2018 12:26
ron	19,700	JK	2.15	58.9	mg/Kg-dry	1	17-Nov-2018 12:26
_ead	31.4		0.0153	0.589	mg/Kg-dry	1	17-Nov-2018 12:26
<b>M</b> anganese	1,570		5.06	58.9	mg/Kg-dry	100	17-Nov-2018 14:49
MOISTURE - ASTM D2216	A	Method:AS	TM D2216	Lat. 2. 15	128		Analyst: KVL
Percent Moisture	21.7		0.0100	0.0100	wt%	1	17-Nov-2018 11:18



Weston Solutions, Inc.

Project:

FJ Doyle RA/TX

Sample ID:

FJD02-10S-20181115-12-56

Collection Date: 15-Nov-2018 11:51

**ANALYTICAL REPORT** 

WorkOrder:HS18110844 Lab ID:HS18110844-06

Matrix:Soil

Collection Date.	10-1100-2010	11.01		Wati ix. 30ii			
ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL PAHS		Method:S\	V8270		Prep:SW3541 / 1	6-Nov-2018	Analyst: GEY
Acenaphthene	U		0.00063	0.0042	mg/Kg-dry	1	19- <b>N</b> ov-2018 14:50
Acenaphthylene	U		0.0013	0.0042	mg/Kg-dry	1	19 <b>-N</b> ov-2018 14:50
Anthracene	0.00076	+ 20	0.00063	0.0042	mg/Kg-dry	1	19-Nov-2018 14:50
Benz(a)anthracene	U	· · · · · · · · · · · · · · · · · · ·	0.0020	0.0042	mg/Kg-dry	1	19- <b>N</b> ov-2018 14:50
Benzo(a)pyrene	U		0.0013	0.0042	mg/Kg-dry	1	19-Nov-2018 14:50
Benzo(b)fluoranthene	U		0.0015	0.0042	mg/Kg-dry	1	19-Nov-2018 14:50
Benzo(g,h,i)perylene	U		0.00088	0.0042	mg/Kg-dry	1	19-Nov-2018 14:50
Benzo(k)fluoranthene	U	**************************************	0.0011	0.0042	mg/Kg-dry	1	19- <b>N</b> ov-2018 14:50
Chrysene	U		0.0010	0.0042	mg/Kg-dry	1	19-Nov-2018 14:50
Dibenz(a,h)anthracene	U	. downer de 2000 ee 2000 e	0.0020	0.0042	mg/Kg-dry	1	19- <b>N</b> ov <b>-</b> 2018 14:50
Fluoranthene	U		0.0014	0.0042	mg/Kg-dry	1	19-Nov-2018 14:50
Fluorene	0.0014	450	0.0014	0.0042	mg/Kg-dry	1	19-Nov-2018 14:50
Indeno(1,2,3-cd)pyrene	U	·	0.0010	0.0042	mg/Kg-dry	1	19-Nov-2018 14:50
Naphthalene	0.0020	4 JB	0.00076	0.0042	mg/Kg-dry	1	19- <b>N</b> ov-2018 14:50
Phenanthrene	0.0036	1	0.0019	0.0042	mg/Kg-dry	1	19-Nov-2018 14:50
Pyrene	0.0020	ىل ىر	0.00076	0.0042	mg/Kg-dry	1	19-Nov-2018 14:5
Surr: 2-Fluorobiphenyl	60.8			43-125	%REC	1	19-Nov-2018 14:5
Surr: 4-Terphenyl-d14	75.2			32-125	%REC	1	19-Nov-2018 14:5
Surr: Nitrobenzene-d5	57.5			37-125	%REC	1	19-Nov-2018 14:5
PCBS BY SW8082A		Method:S\	W8082		Prep:SW3541/36	65 <b>A</b> / 16-Nov	-2018 Analyst: JBA
Aroclor 1016	U		0.0053	0.021	mg/Kg-dry	1	18-Nov-2018 15:1
Aroclor 1221	U		0.0071	0.021	mg/Kg-dry	1	18-Nov-2018 15:1
Aroclor 1232	U		0.0057	0.021	mg/Kg-dry	1	18-Nov-2018 15:1
Aroclor 1242	U	***************************************	0.0075	0.021	mg/Kg-dry	1	18-Nov-2018 15:14
Arodor 1248	U		0.0075	0.021	mg/Kg-dry	1	18-Nov-2018 15:14
Arodor 1254	U		0.0059	0.021	mg/Kg-dry	1	18-Nov-2018 15:14
Aroclor 1260	U		0.0051	0.021	mg/Kg-dry	1	18-Nov-2018 15:14
Surr: Decachlorobiphenyl	88.9			54-143	%REC	1	18-Nov-2018 15:1
Surr: Tetrachloro-m-xylene	81.8			50-140	%REC	1	18-Nov-2018 15:1
METALS BY SW6020A		Method:S\	V6020		Prep.SW3050A /	16-Nov-2018	Analyst: ALF
Arsenic	50.9	# 10 to 10 t	0.0850	0.607	mg/Kg-dry	1	17-Nov-2018 12:28
Cadmium	0.474	478	0.0328	0.607	mg/Kg-dry	1	17- <b>N</b> ov-2018 12:28
Cobalt	12.0		0.0182	0.607	mg/Kg-dry	1	17-Nov-2018 12:28
iron	23,700	4人	22.2	607	mg/Kg-dry	10	17-Nov-2018 15:02
Lead	19.3		0.0158	0.607	mg/Kg-dry	1	17-Nov-2018 12:28
Manganese	1,520		5.22	60.7	mg/Kg-dry	100	17-Nov-2018 15:04
MOISTURE - ASTM D2216	ı	Method:AST	M D2216			Section	Analyst: KVL
Percent Moisture	21.7		0.0100	0.0100	wt%	1	17-Nov-2018 11:18



Weston Solutions, Inc.

Project:

FJ Doyle RA/TX

Sample ID:

FJD03-01-20181115-06-56

Collection Date:

15-Nov-2018 12:14

**ANALYTICAL REPORT** 

WorkOrder:HS18110844 Lab ID:HS18110844-07

Matrix:Soil

	10 1404 2010 12.14			Watti X. Ooli			
ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL PAHS		Method:	SW8270		Prep:SW3541 / 1	6-Nov-2018	Analyst GEY
Acenaphthene	U	TO STATE OF THE PARTY OF THE STATE OF THE	0.00065	0.0043	mg/Kg-dry	1	19-Nov-2018 15:10
Acenaphthylene	Ŭ	dy desilvenent til en titlet over en en en en en treente en et	0.0013	0.0043	mg/Kg-dry	1	19-Nov-2018 15:10
Anthracene	U		0.00065	0.0043	mg/Kg-dry	1	19-Nov-2018 15:10
Benz(a)anthracene	U		0.0021	0.0043	mg/Kg-dry	1	19-Nov-2018 15:10
Benzo(a)pyrene	0.0013	1 20	0.0013	0.0043	mg/Kg-dry	1	19-Nov-2018 15:10
Benzo(b)fluoranthene	0.0022	8	0.0016	0.0043	mg/Kg-dry	1	19- <b>N</b> ov-2018 15:10
Benzo(g,h,i)perylene	0.0022	8	0.00091	0.0043	mg/Kg-dry	1	19-Nov-2018 15:10
Benzo(k)fluoranthene	0.0018	8	0.0012	0.0043	mg/Kg-dry	1	19- <b>N</b> ov-2018 15:10
Chrysene	0.0017	لار	0.0010	0.0043	mg/Kg-dry	1	19-Nov-2018 15:10
Dibenz(a,h)anthracene	Ü	*******************************	0.0021	0.0043	mg/Kg-dry	1	19-Nov-2018 15:10
Fluoranthene	0.0019	+ 10	0.0014	0.0043	mg/Kg-dry	1.	19-Nov-2018 15:10
Fluorene	U	v vedddioleddiol e centre e c	0.0014	0.0043	mg/Kg-dry	1	19-Nov-2018 15:10
Indeno(1,2,3-cd)pyrene	0.0016	130	0.0010	0.0043	mg/Kg-dry	1	19-Nov-2018 15:10
Naphthalene	U		0.00078	0.0043	mg/Kg-dry	1	19-Nov-2018 15:10
Phenanthrene	U		0.0019	0.0043	mg/Kg-dry	1	19-Nov-2018 15:10
Pyrene	0.0034	ょび	0.00078	0.0043	mg/Kg-dry	1	19-Nov-2018 15:10
Surr: 2-Fluorobiphenyl	60.9		•	43-125	%REC	1	19-Nov-2018 15:10
Surr: 4-Terphenyl-d14	75.5	A. ( - 1) - 10 - 10 - 10 - 10 - 10 - 10 - 10		32-125	%REC	1	19-Nov-2018 15:10
Surr: Nitrobenzene-d5 .	58.7			37-125	%REC	1	19-Nov-2018 15:10
PCBS BY SW8082A	Ž.	Method:	SW8082		Prep:SW3541/36	65A / 16-Nov	-2018 Analyst: JBA
Aroclor 1016	Ü		0.0055	0.022	mg/Kg-dry	1	18-Nov-2018 15:30
Aroclor 1221	U		0.0073	0.022	mg/Kg-dry	1	18-Nov-2018 15:30
Aroclor 1232	U		0.0058	0.022	mg/Kg-dry	1	18-Nov-2018 15:30
Arocior 1242	U		0.0077	0.022	mg/Kg-dry	1	18-Nov-2018 15:30
Aroclor 1248	U		0.0077	0.022	mg/Kg-dry	1	18-Nov-2018 15:30
Aroclor 1254	U		0.0061	0.022	mg/Kg-dry	1	18-Nov-2018 15:30
Aroclor 1260	0.043		0.0052	0.022	mg/Kg-dry	1	18-Nov-2018 15:30
Surr: Decachlorobiphenyl	102			54-143	%REC	1	18-Nov-2018 15:30
Surr: Tetrachloro-m-xylene	92.2			50-140	%REC	1	18-Nov-2018 15:30
METALS BY SW6020A		Method:	SW6020		Prep.SW3050A /	16-Nov-2018	Analyst: ALR
Arsenic	13.2		0.0857	0.612	mg/Kg-dry	1	17-Nov-2018 12:30
Cadmium	0.495	400	0.0331	0.612	mg/Kg-dry	1	17-Nov-2018 12:30
Cobalt	12.3		0.0184	0.612	mg/Kg-dry	1	17-Nov-2018 12:30
Iron	20,200	ゴド	2.24	61.2	mg/Kg-dry	1	17-Nov-2018 12:30
Lead	54.2		0.0159	0.612	mg/Kg-dry	1	17-Nov-2018 12:30
Manganese	1,720	one or the sale of	5.26	61.2	mg/Kg-dry	100	17-Nov-2018 15:06
MOISTURE - ASTM D2216	N	lethod:AS	TM D2216		-		Analyst: KVL
Percent Moisture	23.4	-	0.0100	0.0100	wt%	1	17-Nov-2018 11:18



Weston Solutions, Inc.

FJD03-03-20181115-06-56

Project:

Sample ID:

FJ Doyle RA/TX

Collection Date:

15-Nov-2018 12:04

**ANALYTICAL REPORT** 

WorkOrder:HS18110844 Lab ID:HS18110844-08

Matrix:Soil

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL PAHS		Method:	SW8270		Prep:SW3541 / 1	5-Nov-2018	Analyst: GEY
Acenaphthene	U		0.00063	0.0041	mg/Kg-dry	1	19-Nov-2018 15:29
Acenaphthylene	U	**************************************	0.0013	0.0041	mg/Kg-dry	1	19-Nov-2018 15:29
Anthracene	U		0.00063	0.0041	mg/Kg-dry	1	19-Nov-2018 15:29
Benz(a)anthracene	U		0.0020	0.0041	mg/Kg-dry	1	19-Nov-2018 15:29
Benzo(a)pyrene	0.0018	d 50	0.0013	0.0041	mg/Kg-dry	1	19-Nov-2018 15:29
Benzo(b)fluoranthene	0.0019	J J6	0.0015	0.0041	mg/Kg-dry	1	19-Nov-2018 15:29
Benzo(g,h,i)perylene	U		0.00088	0.0041	mg/Kg-dry	1	19-Nov-2018 15:29
Benzo(k)fluoranthene	0.0012	430	0.0011	0.0041	mg/Kg-dry	1	19-Nov-2018 15:29
Chrysene	0.0025	530	0.0010	0.0041	mg/Kg-dry	1	19-Nov-2018 15:29
Dibenz(a,h)anthracene	U	Specimens (1) and difference are seen as a second	0.0020	0.0041	mg/Kg-dry	1	19-Nov-2018 15:29
Fluoranthene	U		0.0014	0.0041	mg/Kg-dry	· 1	19-Nov-2018 15:29
Fluorene	U	Commencedore - en Company (Company recommensarios e en	0.0014	0.0041	mg/Kg-dry	1	19-Nov-2018 15:29
Indeno(1,2,3-cd)pyrene	0.0014	4 20	0.0010	0.0041	mg/Kg-dry	1	19-Nov-2018 15:29
Naphthalene	0.0014	+116	0.00075	0.0041	mg/Kg-dry	1	19-Nov-2018 15:29
Phenanthrene	U		0.0019	0.0041	mg/Kg-dry	1	19-Nov-2018 15:29
Pyrene	0.0027	470	0.00075	0.0041	mg/Kg-dry	1	19-Nov-2018 15:29
Surr: 2-Fluorobiphenyl	56.7			43-125	%REC	1	19-Nov-2018 15:29
Surr: 4-Terphenyl-d14	80.2	te seemeneed tis dissessioneen met siid tadk	estante commenciale de differ for sense desde de la 1977 forme en Nado	32-125	%REC	1	19-Nov-2018 15:29
Surr: Nitrobenzene-d5	56.5			37-125	%REC	1	19-Nov-2018 15:29
PCBS BY SW8082A		Method:	SW8082		Prep:SW3541/36	65 <b>A / 16-N</b> ov	-2018 Analyst: JBA
Aroclor 1016	U	386 506 4 KU ( S. ), S. ; T. ; T. S. S. S. S.	0.0053	0.021	mg/Kg-dry	1	18-Nov-2018 15:45
Aroclor 1221	U		0.0071	0.021	mg/Kg-dry	1	18-Nov-2018 15:45
Aroclor 1232	U		0.0057	0.021	mg/Kg-dry	1	18-Nov-2018 15:45
Aroclor 1242	U	Tanana di Cadife	0.0074	0.021	mg/Kg-dry	1	18-Nov-2018 15:45
Aroclor 1248	U		0.0074	0.021	mg/Kg-dry	1	18-Nov-2018 15:4
Aroclor 1254	U		0.0059	0.021	mg/Kg-dry	1	18-Nov-2018 15:4
Arocior 1260	0.12		0.0050	0.021	mg/Kg-dry	1	18-Nov-2018 15:4
Surr: Decachlorobiphenyl	122			54-143	%REC	1	18-Nov-2018 15:4
Surr: Tetrachloro-m-xylene	101			50-140	%REC	1	18-Nov-2018 15:4
METALS BY SW6020A		Method:	SW6020		Prep:SW3050A /	16-Nov-2018	Analyst: ALF
Arsenic	29.8		0.0837	0.598	mg/Kg-dry	1	17-Nov-2018 12:3
Cadmium	0.711	one of the contract of the con	0.0323	0.598	mg/Kg-dry	1	17-Nov-2018 12:3
Cobalt	13.7		0.0179	0.598	mg/Kg-dry	1	17-Nov-2018 12:3
Iron	20,200	JK-	2.19	59.8	mg/Kg-dry	1	17-Nov-2018 12:3
Lead	50.0		0.0155	0,598	mg/Kg-dry	1	17-Nov-2018 12:3
Manganese	1,970		5.14	59.8	mg/Kg-dry	100	17-Nov-2018 15:0
MOISTURE - ASTM D2216		Method:AS	TM D2216				Analyst: KVI
Percent Moisture	21.0		0.0100	0.0100	wt%	1	17-Nov-2018 11:1



Client: Project: Weston Solutions, Inc.

FJ Doyle RA/TX

Sample ID:

FJD05-03A-20181115-06-56

Collection Date:

15-Nov-2018 12:22

**ANALYTICAL REPORT** 

WorkOrder:HS18110844 Lab ID:HS18110844-09

Matrix:Soil

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL PAHS		Method:S	W8270		Prep:SW3541 / 1	6-Nov-2018	Analyst: GEY
Acenaphthene	U		0.00065	0.0043	mg/Kg-dry	1	19-Nov-2018 15:49
Acenaphthylene	U	· · · · · · · · · · · · · · · · · · ·	0.0013	0.0043	mg/Kg-dry	1	19-Nov-2018 15:49
Anthracene	0.00066	\$ 20	0.00065	0.0043	mg/Kg-dry	1	19-Nov-2018 15:49
Benz(a)anthracene	0.0036	8	0.0021	0.0043	mg/Kg-dry	1	19-Nov-2018 15:49
Benzo(a)pyrene	0.0031	ل بر	0.0013	0.0043	mg/Kg-dry	1	19-Nov-2018 15:49
Benzo(b)fluoranthene	0.0053		0.0016	0.0043	mg/Kg-dry	1	19-Nov-2018 15:49
Benzo(g,h,i)perylene	0.0034	حال لر	0.00091	0.0043	mg/Kg-dry	1	19-Nov-2018 15:49
Benzo(k)fluoranthene	0.0034	الا	0.0012	0.0043	mg/Kg-dry	1	19-Nov-2018 15:49
Chrysene	0.0040	ك لمر	0.0010	0.0043	mg/Kg-dry	1	19-Nov-2018 15:49
Dibenz(a,h)anthracene	U		0.0021	0.0043	mg/Kg-dry	1	19-Nov-2018 15:49
Fluoranthene	0.0049		0.0014	0.0043	mg/Kg-dry	1	19-Nov-2018 15:49
Fluorene	U		0.0014	0.0043	mg/Kg-dry	1	19-Nov-2018 15:49
Indeno(1,2,3-cd)pyrene	0.0051		0.0010	0.0043	mg/Kg-dry	1	19-Nov-2018 15:49
Naphthalene	U		0.00078	0.0043	mg/Kg-dry	1	19-Nov-2018 15:49
Phenanthrene	0.0035	J J0	0.0019	0.0043	mg/Kg-dry	1	19-Nov-2018 15:49
Pyrene	0.0064		0.00078	0.0043	mg/Kg-dry	1	19-Nov-2018 15:49
Surr: 2-Fluorobiphenyl	70.2			43-125	%REC	1	19-Nov-2018 15:49
Surr: 4-Terphenyl-d14	85.1			32-125	%REC	1	19-Nov-2018 15:49
Surr: Nitrobenzene-d5	66.0			37-125	%REC	1	19-Nov-2018 15:49
PCBS BY SW8082A		Method:S	SW8082	And the sum of the sum	Prep:SW3541/36	65A / 16-Nov	-2018 Analyst: JBA
Aroclor 1016	U		0.0055	0.022	mg/Kg-dry	1	18-Nov-2018 12:05
Aroclor 1221	U		0.0073	0.022	mg/Kg-dry	1	18- <b>N</b> ov <b>-</b> 2018 12:05
Aroclor 1232	U		0.0058	0.022	mg/Kg-dry	1	18-Nov-2018 12:05
Aroclor 1242	U		0.0077	0.022	mg/Kg-dry	1	18-Nov-2018 12:05
Aroclor 1248	U		0.0077	0.022	mg/Kg-dry	1	18-Nov-2018 12:05
Aroclor 1254	U		0.0061	0.022	mg/Kg-dry	1	18-Nov-2018 12:05
Aroclor 1260	0.14		0.0052	0.022	mg/Kg-dry	1	18-Nov-2018 12:05
Surr: Decachlorobiphenyl	109			54-143	%REC	1	18-Nov-2018 12:05
Surr: Tetrachloro-m-xylene	96.3			50-140	%REC	1	18-Nov-2018 12:05
METALS BY SW6020A		Method:	SW6020		Prep SW3050A	/ 16-Nov-201	B Analyst: ALR
Arsenic	23.6		0.0839	0.599	mg/Kg-dry	, 1	17-Nov-2018 11:05
Cadmium	0.874		0.0323	0.599	mg/Kg-dry	1	17-Nov-2018 11:05
Cobalt	7.35		0.0180	0.599	mg/Kg-dry	, 1	17-Nov-2018 11:05
Iron	14,000		2,19	59.9	mg/Kg-dry	, 1	17-Nov-2018 11:05
Lead	73.4		0.0779	3.00	mg/Kg-dry	, 5	17-Nov-2018 14:06
Manganese	1,380		5.15	59.9	mg/Kg-dry	, 100	17-Nov-2018 14:17
MOISTURE - ASTM D2216	HANGER BANKER BANKER	Method:AS	an orang kerengan di dibibikan da				Analyst: KVL
Percent Moisture	23.2		0.0100	0.0100	wt%	1	17-Nov-2018 11:18

# DATA QUALITY ASSURANCE REVIEW

SITE NAME	Frank J. Doy	yle Salvage Removal Actio	n			
WORK ORDER	R NUMBER	20600.012.001.1175.01	TDD NI	UMBER	0001/18-175	
PROJECT NUMBER			SDG NU	JMBER	HS18111007	
20600.012.001.1175	5.01; SDG No	. HS18111007; Frank J. D	oyle Salv	age Remo	for Work Order Number oval Action. Ten samples were ntal. Sample numbers are listed	
		SAMPLE NUM	BERS			
EAS04-20181119-12	2-56	EAS05-20181119-12-56		FJD03-02	2-20181119-24-56	
FJD03-04-20181119	0-24-56	FJD03-07-20181119-06-56		FJD03-07-20181119-06-57		
FJD03-08-20181119	0-24-56	FJD05-04A-20181119-06-5	6	FJD02-08	8-20181119-12-56	
FJD03-05-20181119	9-06-56					
_						
	·					
USEPA National Functional National Functional Laboratory Program (April, 2016), Qual	inctional Guid al Guidelines in National Fi ity Assurance/ col for Holdi	delines for Organic Superfu for Inorganic Superfund unctional Guidelines for H Quality Control Guidance ng Times, Blanks, and Ve	nd Metho Data Rev Jigh Reso for Remo	ods Data R view (Janu olution Sup oval Activi	tions were achieved, following deview (January, 2017), USEPA Contract perfund Methods Data Review dities (September, 2011), and/or April 13, 1989). Specific data	
REVIEWER	Gloria J. Sw	italski		DATE	December 26, 2018	

## **Data Qualifiers**

Data Qualifier Definitions were supplied by the Office of Solid Waste and Emergency Response (September 1989) and are included in the Functional Guidelines. Data qualifiers may be combined (UJ, QJ) with the corresponding combination of meanings. Additional qualifiers may be added to provide additional, more specific information (JL, UB, QJK), modifying the meaning of the primary qualifier. Additional qualifiers utilized by WESTON are H, L, K, B, and Q.

U - The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation or detection limit, which has been adjusted for sample weight/sample volume, extraction volume, percent solids, sample dilution or other analysis specific parameters.

An additional qualifier, "B", may be appended to indicate that while the analyte was detected in the sample, the presence of the analyte may be attributable to blank contamination and the analyte is therefore considered undetected with the sample detection or quantitation limit for the analyte being elevated.

J - The analyte was analyzed for, but the associated numerical value may not be consistent with the amount actually present in the environmental sample or may not be consistent with the sample detection or quantitation limit. The value is an estimated quantity. The data should be seriously considered for decision-making and are usable for many purposes.

An additional qualifier will be appended to the "J" qualifier that indicates the bias in the reported results:

- L Low bias
- H High bias
- K Unknown bias
- Q The reported concentration is less than the sample quantitation limit for the specific analyte in the sample.

The L and H qualifier will only be employed when a single qualification is required. When more than one quality control parameter affects the analytical result and a conflict results in assigning a bias, the result will be flagged JK.

- R Quality Control indicates that data are unusable for all purposes. The analyte was analyzed for, but the presence or absence of the analyte has not been verified. Resampling and reanalysis are necessary for verification to confirm or deny the presence of an analyte.
- N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

#### PCB FRACTION EVALUATION

# 1. Analytical Method:

Samples were prepared and analyzed for PCBs using the procedures specified in SW-846 Method 8082A.

## 2. Holding Time:

The samples were received within the recommended ≤6°C NFG limit. All samples were extracted within the required holding time of less than 1 year after collection. Analysis of the samples was conducted within 40 days of extraction. No qualifications are placed on the data.

## 3. Initial Calibration:

The correlation coefficient of the multipoint initial calibration was greater than or equal to 0.995 or the percent relative standard deviation (%RSD) was less than or equal to 20%. No qualifications are placed on the data.

## 4. Continuing Calibration:

The continuing calibration check was analyzed at the required frequency and met recovery requirements of 75%-125% [percent difference (%D) was less than 25%]. No qualifications are placed on the data.

#### 5. Blanks:

#### A. Laboratory Blanks:

A method blank was prepared at the required frequency of every time samples were extracted for each matrix and concentration or every 20 samples whichever is greater. No target analytes were detected in the method blanks at concentrations that warrant blank action. No qualifications are placed on the data.

## B. Field Blanks:

No field blank samples were submitted with this analytical package. No qualifications are placed on the data.

#### 6. Surrogates:

All recoveries of the surrogates were within the control limits provided or were diluted out. No qualifications are placed on the data.

# 7. Matrix Spikes/Matrix Spike Duplicates (MS/MSD):

Sample FJD03-08-20181119-24-56 underwent MS/MSD analysis for the solid matrix. Recoveries of all spiked analytes were within the control limits provided with the following exceptions:

ANALYTE	MATRIX	%R/%R	QC LIMITS	AFFECTED SAMPLES	QUALIFIER FLAG
Aroclor 1260	Solid	177/190	54-137%	All	JH, Aroclor-1260

## 8. Duplicates:

# A. Laboratory Duplicate Analysis:

Sample FJD03-08-20181119-24-56 underwent MS/MSD analysis for the solid matrix. QC criteria are that the relative percent difference (RPD) values for the duplicate sample analysis are less than 20% for aqueous samples and less than 35% for solid samples. All QC criteria were met. No qualifications are placed on the data.

## B. Field Duplicate Analysis:

The following sample pair was submitted as field duplicates for the solid matrix: FJD03-07-20181119-06-56/FJD03-07-20181119-06-57. QC criteria are that the RPD values for the field duplicate sample analysis be less than 30% for aqueous samples and less than 50% for solid samples for concentrations greater than five times the reporting limit (RL). For sample concentrations less than five times the RL, the QC criteria are that the absolute difference between the samples is less than two times the RL for aqueous samples or less than 3.5 times the RL for the solid matrix. All QC criteria were met. No qualifications are placed on the data.

## 9. Laboratory Control Sample (LCS):

The laboratory analyzed an LCS and recoveries were within the control limits provided. No qualifications are placed on the data.

# 10. Target Compound Identification, Quantitation, and Reporting Limits:

Concentrations of all reported compounds were correctly calculated.

The %D between the column results were within the acceptance limits (≤25). No qualifications are placed on the data.

Some PCB samples were analyzed at a dilution for some compounds. Reporting limits for these compounds in these samples were elevated as a result of the dilutions performed.

# 11. Laboratory Contact:

The laboratory was contacted on December 13, 2018 regarding an incomplete method blank form. An acceptable response was received on December 24, 2018.

## 12. Overall Assessment:

The Aroclor 1260 result in one sample was estimated due to high MS/MSD recoveries.

The analytical data is acceptable for use with the qualifications listed above.

# DATA QUALITY ASSURANCE REVIEW

SITE NAME Frank J	. Doyle Salvage Removal Actio	n	
WORK ORDER NUMB	ER 20600.012.001.1175.01	TDD NUMBER	0001/18-175
PROJECT NUMBER		SDG NUMBER	HS18111007
20600.012.001.1175.01; SDC	WESTON®) has completed in the completed	oyle Salvage Remo	oval Action. Ten samples wer
	SAMPLE NUM	BERS	
EAS04-20181119-12-56	EAS05-20181119-12-56	FJD03-0	2-20181119-24-56
FJD03-04-20181119-24-56	FJD03-07-20181119-06-56	FJD03-0	7-20181119-06-57
FJD03-08-20181119-24-56	FJD05-04A-20181119-06-5	6 FJD02-0	8-20181119-12-56
FJD03-05-20181119-06-56			
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	_		
_	_		
	_		
USEPA National Functional National Functional Guidel Laboratory Program Nation (April, 2016), Quality Assurd	ated to determine if Quality Con Guidelines for Organic Superfuines for Inorganic Superfund al Functional Guidelines for Indiance/Quality Control Guidance Holding Times, Blanks, and V	and Methods Data K Data Review (Jan High Resolution Su for Removal Activ	Review (January, 2017), USEPA uary, 2017), USEPA Contract perfund Methods Data Reviev ities (September, 2011), and/o
qualifications are listed in the	e following discussion.		
REVIEWER Gloria J	. Switalski	DATE	December 14, 2018

### **Data Qualifiers**

Data Qualifier Definitions were supplied by the Office of Solid Waste and Emergency Response (September 1989) and are included in the Functional Guidelines. Data qualifiers may be combined (UJ, QJ) with the corresponding combination of meanings. Additional qualifiers may be added to provide additional, more specific information (JL, UB, QJK), modifying the meaning of the primary qualifier. Additional qualifiers utilized by WESTON are H, L, K, B, and Q.

U - The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation or detection limit, which has been adjusted for sample weight/sample volume, extraction volume, percent solids, sample dilution or other analysis specific parameters.

An additional qualifier, "B", may be appended to indicate that while the analyte was detected in the sample, the presence of the analyte may be attributable to blank contamination and the analyte is therefore considered undetected with the sample detection or quantitation limit for the analyte being elevated.

J - The analyte was analyzed for, but the associated numerical value may not be consistent with the amount actually present in the environmental sample or may not be consistent with the sample detection or quantitation limit. The value is an estimated quantity. The data should be seriously considered for decision-making and are usable for many purposes.

An additional qualifier will be appended to the "J" qualifier that indicates the bias in the reported results:

- L Low bias
- H High bias
- K Unknown bias
- Q The reported concentration is less than the sample quantitation limit for the specific analyte in the sample.

The L and H qualifier will only be employed when a single qualification is required. When more than one quality control parameter affects the analytical result and a conflict results in assigning a bias, the result will be flagged JK.

- R Quality Control indicates that data are unusable for all purposes. The analyte was analyzed for, but the presence or absence of the analyte has not been verified. Resampling and reanalysis are necessary for verification to confirm or deny the presence of an analyte.
- N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

#### PAH FRACTION EVALUATION

# 1. Analytical Method:

Samples were prepared and analyzed using the procedures specified in **SW-846 Method 8270D selective ion monitoring (SIM).** 

# 2. Holding Time:

The samples were received within the recommended  $\leq$ 6°C NFG limit. All samples were extracted within the required holding time of less than 7 days for waters and less than 14 days for solids/wastes after collection. Analysis of the samples was conducted within 40 days of extraction. No qualifications are placed on the data.

# 3. Tuning/Performance:

DFTPP tuning of the mass spectrometer(s) was conducted at the required frequency and results were within the required criteria. No qualifications are placed on the data.

#### 4. Initial Calibration:

All individual relative response factors (RRFs) and average RRFs for the initial calibration (IC) were greater than the compound dependent (see Table 34 of National Functional Guidelines) control limits. All percent relative standard deviations (%RSDs) were less than the compound dependent (see Table 34 of National Functional Guidelines) control limits or the correlation coefficient was > 0.990. No qualifications are placed on the data.

# 5. Continuing Calibration:

All individual RRFs for the initial calibration verification (ICV) and continuing calibration (CC) standards were greater than the compound dependent (see Table 34 of National Functional Guidelines) control limits. All percent differences (%Ds) were less than the compound dependent (see Table 34 of National Functional Guidelines) control limits. No qualifications are placed on the data.

#### 6. Blanks:

# A. Laboratory Blanks:

A method blank was prepared at the required frequency of every time samples were extracted for each matrix and concentration or every 20 samples whichever is greater. Target analytes were not detected in the method at concentrations that warrant blank action. No qualifications are placed on the data.

#### B Field Blanks:

No field blank samples were submitted with this analytical package. No qualifications are placed on the data.

## 7. System Monitoring Compounds (SMC):

All recoveries of the system monitoring compounds (surrogates) were within the control limits provided. No qualifications are placed on the data.

## 8. Duplicates:

# A. Laboratory Duplicate Analysis:

Sample EAS04-20181119-12-56 underwent matrix spike/matrix spike duplicate (MS/MSD) analysis for the solid matrix. QC criteria are that the relative percent difference (RPD) values for the duplicate sample analysis are less than 20% for aqueous samples and less than 35% for solid samples. All QC criteria were met. No qualifications are placed on the data.

## B. Field Duplicate Analysis:

The following sample pair was submitted as field duplicates for the solid matrix: FJD03-07-20181119-06-56/FJD03-07-20181119-06-57. QC criteria are that the RPD values for the field duplicate sample analysis be less than 30% for aqueous samples and less than 50% for solid samples for concentrations greater than five times the reporting limit (RL). For sample concentrations less than five times the RL, the QC criteria are that the absolute difference between the samples is less than two times the RL for aqueous samples or less than 3.5 times the RL for the solid matrix. All QC criteria were met. No qualifications are placed on the data.

# 9. Matrix Spike/Matrix Spike Duplicate:

Sample EAS04-20181119-12-56 underwent MS/MSD analysis for the solid matrix. Recoveries of all spiked analytes were within the control limits provided in both the matrix spike and matrix spike duplicate. No qualifications are placed on the data.

#### 10. Internal Standards:

Areas of the six internal standards were within the control limits of a factor of 2 (-50% to +100%) and retention times were within 30 seconds from the associated 12 hour calibration standard. No qualifications are placed on the data.

## 11. Laboratory Control Sample (LCS):

The laboratory analyzed an LCS and recoveries were within the control limits provided. No qualifications are placed on the data.

#### 12. Target Compound Identification:

All target compounds reported by the laboratory met identification criteria of relative retention times (RRT) within 0.06 RRT units of the 12 hour standard and that all ions present in the standard mass spectrum were present in the sample mass spectrum and the abundance of these ions agreed within  $\pm$  20% of the standard. No qualifications are placed on the data.

## 13. Target Compound Quantitation and Reporting Limits:

Concentrations of all reported compounds were correctly calculated.

Reported concentrations less than the RL qualified "J" by the laboratory are qualified "JQ" to indicate that the result is less than the RL but greater than the method detection limit (MDL).

# 14. Laboratory Contact:

No laboratory contact was required.

# 15. Overall Assessment

Reported concentrations less than the RL qualified "J" by the laboratory were qualified "JQ" to indicate that the result is less than the RL but greater than the MDL.

The analytical data is acceptable for use with the qualifications listed above.

# DATA QUALITY ASSURANCE REVIEW

PROJECT NUMBER		SDG NUMBER	HS18111007	
TROJECT NUMBER		SDO NOMBER	11510111007	
Weston Solutions, Inc. (WI 20600.012.001.1175.01; SDG N analyzed for metals (As, Cd, Co	Vo. HS18111007; Frank J. С	oyle Salvage Remo	oval Action. Ten samples wer	
	SAMPLE NUM	BERS		
EAS04-20181119-12-56	EAS05-20181119-12-56	FJD03-02	2-20181119-24-56	
FJD03-04-20181119-24-56	FJD03-07-20181119-06-56	FJD03-0	7-20181119-06-57	
FJD03-08-20181119-24-56	FJD05-04A-20181119-06-5	6 FJD02-08	2-08-20181119-12-56	
FJD03-05-20181119-06-56				
		<del></del>		
This data package was validated	l to determine if Quality Cor	ntrol (QC) specifica	ations were achieved, following	
USEPA National Functional Gu National Functional Guideline. Laboratory Program National (April, 2016), Quality Assurance the Regional Protocol for Holo qualifications are listed in the fo	idelines for Organic Superfus s for Inorganic Superfund Functional Guidelines for I se/Quality Control Guidance ding Times, Blanks, and V	and Methods Data R Data Review (Janu High Resolution Sup for Removal Active	Review (January, 2017), USEP uary, 2017), USEPA Contra perfund Methods Data Revie ities (September, 2011), and/o	
REVIEWER Gloria I S	witalski	DATE	December 26 2018	

# **Data Qualifiers**

Data Qualifier Definitions were supplied by the Office of Solid Waste and Emergency Response (September 1989) and are included in the Functional Guidelines. Data qualifiers may be combined (UJ, QJ) with the corresponding combination of meanings. Additional qualifiers may be added to provide additional, more specific information (JL, UB, QJK), modifying the meaning of the primary qualifier. Additional qualifiers utilized by WESTON are H, L, K, B, and Q.

U - The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation or detection limit, which has been adjusted for sample weight/sample volume, extraction volume, percent solids, sample dilution or other analysis specific parameters.

An additional qualifier, "B", may be appended to indicate that while the analyte was detected in the sample, the presence of the analyte may be attributable to blank contamination and the analyte is therefore considered undetected with the sample detection or quantitation limit for the analyte being elevated.

J - The analyte was analyzed for, but the associated numerical value may not be consistent with the amount actually present in the environmental sample or may not be consistent with the sample detection or quantitation limit. The value is an estimated quantity. The data should be seriously considered for decision-making and are usable for many purposes.

An additional qualifier will be appended to the "J" qualifier that indicates the bias in the reported results:

- L Low bias
- H High bias
- K Unknown bias
- Q The reported concentration is less than the sample quantitation limit for the specific analyte in the sample.

The L and H qualifier will only be employed when a single qualification is required. When more than one quality control parameter affects the analytical result and a conflict results in assigning a bias, the result will be flagged JK.

- R Quality Control indicates that data are unusable for all purposes. The analyte was analyzed for, but the presence or absence of the analyte has not been verified. Resampling and reanalysis are necessary for verification to confirm or deny the presence of an analyte.
- N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

#### METALS DATA EVALUATION

### 1. Analytical Method:

Samples were prepared and analyzed for ICP metals using the procedures specified in SW-846 Method 6020A.

# 2. Holding Times:

All samples met established holding time criteria of 180 days for ICP metals. No qualifications are placed on the data.

#### 3. Initial Calibration:

ICP initial calibration included a blank and five standards and initial calibration verification results fell within the control limits of 90% to 110% of the true values. No qualifications are placed on the data.

# 4. Continuing Calibration:

All ICP results fell within the control limits of 90% to 110% of the true values. No qualifications are placed on the data.

#### 5. CRDL Standard:

All results for the CRDL standard were within the control limits of 70% to 130% of the true values or the sample results were greater than the CRDL action level. No qualifications are placed on the data.

#### 6. Blanks:

#### A. Laboratory Blanks:

A method blank was prepared at the required frequency of every time samples were prepared/digested for each matrix or every 20 samples whichever is greater. Target analytes were not detected in the method and calibration blanks at concentrations that warrant blank action. No qualifications are placed on the data.

#### B. Field Blanks:

No field blank samples were submitted with this analytical package. No qualifications are placed on the data.

#### 7. ICP Interference Check:

All results for the interference check sample were within the control limits of 80% to 120% of the true values. No qualifications are placed on the data.

#### 8. Laboratory Control Sample (LCS):

The recoveries for the LCS were within the control limits provided. No qualifications are placed on the data.

# 9. Duplicate Sample Analysis:

## A. Laboratory Duplicate Analysis:

Sample FJD03-08-20181119-24-56 underwent matrix spike/matrix spike duplicate (MS/MSD) analysis for ICP metals for the solid matrix. QC criteria are that the RPD values for the duplicate sample analysis are less than 20% for aqueous samples and less than 35% for solid samples. All QC criteria were met. No qualifications are placed on the data.

## B. Field Duplicate Analysis:

The following sample pair was submitted as field duplicates for the solid matrix: FJD03-07-20181119-06-56/FJD03-07-20181119-06-57. QC criteria are that the RPD values for the field duplicate sample analysis be less than 30% for aqueous samples and less than 50% for solid samples for concentrations greater than five times the reporting limit (RL). For sample concentrations less than five times the RL, the QC criteria are that the absolute difference between the samples is less than two times the RL for aqueous samples or less than 3.5 times the RL for the solid matrix. All QC criteria were met. No qualifications are placed on the data.

#### 10. Spiked Sample Analysis:

Sample FJD03-08-20181119-24-56 underwent MS/MSD analysis for ICP metals for the solid matrix. The spike recoveries for the following analytes were outside of the 75%-125% QC recovery limits for analytes whose sample concentration did not exceed the spike concentration by a factor of 4 times or more:

ANALYTE	MATRIX	%R/%R	AFFECTED SAMPLES	QUALIFIER FLAG
Lead	Solid	73.1/63.9	All	JL

The post digestion spike recoveries were acceptable. No further qualifications are placed on the data.

#### 11. ICP Serial Dilution:

Sample FJD03-08-20181119-24-56 underwent serial dilution for the solid matrix for ICP metals. The percent difference (%D) values for serial dilution analysis were within the QC limits of 10% for all analytes whose concentrations were greater than 50 times their method detection limit (MDL). No qualifications are placed on the data.

## 12. Sample Quantitation and Reporting Limits:

Concentrations of all reported analytes were correctly calculated.

Reported concentrations less than the RL qualified "J" by the laboratory are qualified "JQ" to indicate that the result is less than the RL but greater than the MDL.

Some ICP metals analytes in some samples were analyzed at a 100-fold dilution. Reporting limits for these analytes in these samples were elevated as a result of the dilutions performed.

# 13. Laboratory Contact

The laboratory was contacted on December 13, 2018 regarding the lack of a sequence log and prep page. An acceptable response was received on December 24, 2018.

### 14. Overall Assessment:

The lead result in all samples was qualified due to low MS/MSD recoveries.

Reported concentrations less than the RL qualified "J" by the laboratory were qualified "JQ" to indicate that the result is less than the RL but greater than the MDL.

The analytical data is acceptable for use with the qualifications listed above.

Weston Solutions, Inc.

Project:

FJ Doyle RA/TX

Sample ID:

EAS04-20181119-12-56

Collection Date:

19-Nov-2018 11:53

**ANALYTICAL REPORT** 

WorkOrder:HS18111007 Lab ID:HS18111007-01

Matrix:Soil

ANALYSES	RESULT (	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL PAHS		Method:S	W8270	The second second	Prep:SW3541 / 2	0-Nov-2018	Analyst: ACN
Acenaphthene	U		0.00062	0.0041	mg/Kg-dry	1	20-Nov-2018 20:10
Acenaphthylene	Ŭ		0.0012	0.0041	mg/Kg-dry	1	20-Nov-2018 20:10
Anthracene	U		0.00062	0.0041	mg/Kg-dry	1	20-Nov-2018 20:10
Benz(a)anthracene	U		0.0020	0.0041	mg/Kg-dry	1	20-Nov-2018 20:10
Benzo(a)pyrene	U		0.0012	0.0041	mg/Kg-dry	1	20-Nov-2018 20:10
Benzo(b)fluoranthene	0.0023	870	0.0015	0,0041	mg/Kg-dry	1	20-Nov-2018 20:10
Benzo(g,h,i)perylene	0.0026	المر	0.00087	0.0041	mg/Kg-dry	1	20-Nov-2018 20:10
Benzo(k)fluoranthene	0.0013	ا بر	0.0011	0.0041	mg/Kg-dry	1	20-Nov-2018 20:10
Chrysene	0.0026	السلا	0.0010	0.0041	mg/Kg-dry	1	20-Nov-2018 20:10
Dibenz(a,h)anthracene	Ŭ	c announcement is a single .	0.0020	0.0041	mg/Kg-dry	1	20-Nov-2018 20:10
Fluoranthene	0.0029	PC 4	0.0014	0.0041	mg/Kg-dry	1	20-Nov-2018 20:10
Fluorene	U	0000 - 6.00 to 4.000000000000000000000000000000000000	0.0014	0.0041	mg/Kg-dry	1	20-Nov-2018 20:10
Indeno(1,2,3-cd)pyrene	U		0.0010	0.0041	mg/Kg-dry	1	20-Nov-2018 20:10
Naphthalene	0.0016	4 <u>I</u> O	0.00075	0.0041	mg/Kg-dry	1	20-Nov-2018 20:10
Phenanthrene	0.0030	1	0.0019	0.0041	mg/Kg-dry	1	20-Nov-2018 20:10
Pyrene	0.0021	ل ما	0.00075	0.0041	mg/Kg-dry	1	20-Nov-2018 20:10
Surr: 2-Fluorobiphenyl	86.1			43-125	%REC	1	20-Nov-2018 20:10
Surr: 4-Terphenyl-d14	92.8		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	32-125	%REC	1	20-Nov-2018 20:10
Surr: Nitrobenzene-d5	86.4			37-125	%REC	1	20-Nov-2018 20:10
PCBS BY SW8082A	articular and a second	Method:S	W8082		Prep:SW3541/36	65A / 20-Nov	-2018 Analyst: JBA
Aroclor 1016	U		0.0053	0.021	mg/Kg-dry	1	21-Nov-2018 09:29
Aroclor 1221	U		0.0070	0.021	mg/Kg-dry	1	21-Nov-2018 09:29
Aroclor 1232	U		0.0056	0.021	mg/Kg-dry	1	21-Nov-2018 09:29
Aroclor 1242	U		0.0074	0.021	mg/Kg-dry	1	21-Nov-2018 09:29
Aroclor 1248	U		0.0074	0.021	mg/Kg-dry	1	21-Nov-2018 09:29
Aroclor 1254	U		0.0059	0.021	mg/Kg-dry	1	21-Nov-2018 09:29
Aroclor 1260	2.9		0.10	0.42	mg/Kg-dry	20	21-Nov-2018 13:26
Surr: Decachlorobiphenyl	86.1	J		54-143	%REC	20	21-Nov-2018 13:26
Surr: Decachlorobiphenyl	102			54-143	%REC	1	21-Nov-2018 09:29
Surr: Tetrachloro-m-xylene	93.7			50-140	%REC	1	21-Nov-2018 09:29
Surr: Tetrachloro-m-xylene	92.7	J		50-140	%REC	20	21-Nov-2018 13:26
METALS BY SW6020A	1 (1 (a) - (b) (a)	Method:S	W6020		Prep:SW3050A /	20-Nov-2018	Analyst: JCJ
Arsenic	8.90		0.0824	0.588	mg/Kg-dry	1	21-Nov-2018 14:52
Cadmium	0.505	4JQ	0.0318	0.588	mg/Kg-dry	1	21-Nov-2018 14:52
Cobalt	10.2	•	0.0177	0.588	mg/Kg-dry	1	21-Nov-2018 14:52
Iron	19,200	***************************************	2.15	58.8	mg/Kg-dry	1	21-Nov-2018 14:52
Lead	31.7	TL-	0.0153	0.588	mg/Kg-dry	1	21-Nov-2018 14:52
Manganese	2,030		5.06	58.8	mg/Kg-dry	100	21-Nov-2018 18:59



ALS Houston, US

Date: 29-Nov-18

Client:

Weston Solutions, Inc.

Project:

FJ Doyle RA/TX

Sample ID:

EAS04-20181119-12-56

Collection Date:

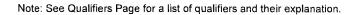
19-Nov-2018 11:53

**ANALYTICAL REPORT** 

WorkOrder:HS18111007

Lab ID:HS18111007-01

ANALYSES	RESULT QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
MOISTURE - ASTM D2216 Percent Moisture	Method:AS <sup>-</sup> 20.1	TM D2216 0.0100	0.0100	wt%	1	Analyst: JHD 20-Nov-2018 18:21





Weston Solutions, Inc.

Project:

FJ Doyle RA/TX

Sample ID:

EAS05-20181119-12-56

Collection Date:

19-Nov-2018 12:03

**ANALYTICAL REPORT** 

WorkOrder:HS18111007 Lab ID:HS18111007-02

Matrix:Soil

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL PAHS		Method:	SW8270		Prep:SW3541 / 2	0-Nov-2018	Analyst: ACN
Acenaphthene	U		0.00064	0.0043	mg/Kg-dry	1	20-Nov-2018 21:09
Acenaphthylene	Ù	and the contraction of the contraction	0.0013	0.0043	mg/Kg-dry	1	20-Nov-2018 21:09
Anthracene	0.00084	J JA	0.00064	0.0043	mg/Kg-dry	1	20-Nov-2018 21:09
Benz(a)anthracene	0.0029	الر	0.0021	0.0043	mg/Kg-dry	1	20-Nov-2018 21:09
Benzo(a)pyrene	0.0029	4	0.0013	0.0043	mg/Kg-dry	1	20-Nov-2018 21:09
Benzo(b)fluoranthene	0.0040	41	0.0015	0.0043	mg/Kg-dry	1	20-Nov-2018 21:09
Benzo(g,h,i)perylene	0.0046		0.00090	0.0043	mg/Kg-dry	1	20-Nov-2018 21:09
Benzo(k)fluoranthene	0.0024	15	0.0012	0.0043	mg/Kg-dry	1	20-Nov-2018 21:09
Chrysene	0.0047		0.0010	0.0043	mg/Kg-dry	1	20-Nov-2018 21:09
Dibenz(a,h)anthracene	0.0025	8 J.	ე 0.0021	0.0043	mg/Kg-dry	1	20-Nov-2018 21:09
Fluoranthene	0.0051		0.0014	0.0043	mg/Kg-dry	1	20-Nov-2018 21:09
Fluorene	U		0.0014	0.0043	mg/Kg-dry	1	20-Nov-2018 21:09
Indeno(1,2,3-cd)pyrene	0.0036	ک لیر	<b>ℚ</b> 0.0010	0.0043	mg/Kg-dry	1	20-Nov-2018 21:09
Naphthalene	0.00090	J- \	0.00077	0.0043	mg/Kg-dry	1	20-Nov-2018 21:09
Phenanthrene	0.0034	47	0.0019	0.0043	mg/Kg-dry	1	20-Nov-2018 21:09
Pyrene	0.0053	0.000 0.000 - 0.000 0.000 0.000 0.000 0.000	0.00077	0.0043	mg/Kg-dry	1	20-Nov-2018 21:09
Surr: 2-Fluorobiphenyl	<i>85.3</i>			43-125	%REC	1	20-Nov-2018 21:09
Surr: 4-Terphenyl-d14	86.6		g garage in group of the manufacture of the second grown when the second grown when the second grown when the second grown we have the second grown when the second grown which the second grown which the second grown which the second grown grown which the second grown	32-125	%REC	1	20-Nov-2018 21:09
Surr: Nitrobenzene-d5	81.6			37-125	%REC	1	20-Nov-2018 21:09
PCBS BY SW8082A		Method:	SW8082		Prep:SW3541/36	65A / 20-Nov	-2018 Analyst: JBA
Aroclor 1016	U		0.0054	0.021	mg/Kg-dry	1	21-Nov-2018 09:45
Aroclor 1221	U		0.0072	0.021	mg/Kg-dry	1	21-Nov-2018 09:45
Aroclor 1232	U		0.0058	0.021	mg/Kg-dry	1	21-Nov-2018 09:45
Aroclor 1242	U		0.0076	0.021	mg/Kg-dry	1	21-Nov-2018 09:45
Aroclor 1248	U		0.0076	0.021	mg/Kg-dry	1	21-Nov-2018 09:45
Aroclor 1254	U		0.0060	0.021	mg/Kg-dry	1 .	21-Nov-2018 09:45
Aroclor 1260	0.71		0.026	0.11	mg/Kg-dry	5	21-Nov-2018 13:41
Surr: Decachlorobiphenyl	95.7	J		54-143	%REC	5	21-Nov-2018 13:41
Surr: Decachlorobiphenyl	95.1			54-143	%REC	1	21-Nov-2018 09:45
Surr: Tetrachloro-m-xylene	88.9			50-140	%REC	1	21-Nov-2018 09:45
Surr: Tetrachloro-m-xylene	79.3	J		50-140	%REC	5	21-Nov-2018 13:41
METALS BY SW6020A		Method:	SW6020		Prep:SW3050A /	20-Nov-2018	Analyst: JCJ
Arsenic	10.0	2000 - 10 - 10 - 10 - 10 - 10 - 10 - 10	0.0842	0.602	mg/Kg-dry		21-Nov-2018 14:54
Cadmium	0.582	at J8	Q 0.0325	0.602	mg/Kg-dry	1	21-Nov-2018 14:54
Cobalt	11.7		0.0181	0.602	mg/Kg-dry	1	21-Nov-2018 14:54
lron	26,100	eren ett ereret en i trouben eren er enen	220	6020	mg/Kg-dry	~#####################################	21-Nov-2018 19:01
Lead	35.7	ゴレ	0.0156	0.602	mg/Kg-dry		21-Nov-2018 14:54
Manganese	2,220		5.17	60.2	mg/Kg-dry		21-Nov-2018 19:01



Weston Solutions, Inc.

Project:

FJ Doyle RA/TX

Sample ID: Collection Date: EAS05-20181119-12-56

19-Nov-2018 12:03

**ANALYTICAL REPORT** 

WorkOrder:HS18111007

Lab ID:HS18111007-02

ANALYSES	RESULT QUA	_ MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
MOISTURE - ASTM D2216 Percent Moisture	Method 22.5	1:ASTM D2216 0.0100	0.0100	wt%	1	Analyst: JHD 20-Nov-2018 18:21



Weston Solutions, Inc.

Project:

FJ Doyle RA/TX

Sample ID:

FJD03-02-20181119-24-56

Collection Date:

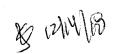
19-Nov-2018 14:41

**ANALYTICAL REPORT** 

WorkOrder:HS18111007 Lab ID:HS18111007-03

Matrix:Soil

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL PAHS		Method:SW	8270		Prep:SW3541 / 2	0-Nov-2018	Analyst: ACN
Acenaphthene	U	0.	.00057	0.0038	mg/Kg-dry	1	20-Nov-2018 21:28
Acenaphthylene	Ú	(	0.0011	0.0038	mg/Kg-dry	1	20-Nov-2018 21:28
Anthracene	U	0.	.00057	0.0038	mg/Kg-dry	1	20-Nov-2018 21:28
Benz(a)anthracene	U	(	0.0018	0.0038	mg/Kg-dry	1	20-Nov-2018 21:28
Benzo(a)pyrene	Ú	(	0.0011	0.0038	mg/Kg-dry	1	20-Nov-2018 21:28
Benzo(b)fluoranthene	U	(	0.0014	0.0038	mg/Kg-dry	1	20-Nov-2018 21:28
Benzo(g,h,i)perylene	0.0011	#JD 0.	.00080	0.0038	mg/Kg-dry	1	20-Nov-2018 21:28
Benzo(k)fluoranthene	U		0.0010	0.0038	mg/Kg-dry	1	20-Nov-2018 21:28
Chrysene	U	0.	.00091	0.0038	mg/Kg-dry	1	20-Nov-2018 21:28
Dibenz(a,h)anthracene	U	(	0.0018	0.0038	mg/Kg-dry	1	20-Nov-2018 21:28
Fluoranthene	U	(	0.0013	0.0038	mg/Kg-dry	1	20-Nov-2018 21:28
Fluorene	U	(	0.0013	0.0038	mg/Kg-dry	1	20-Nov-2018 21:2
Indeno(1,2,3-cd)pyrene	U	0.	.00091	0.0038	mg/Kg-dry	1	20-Nov-2018 21:2
Naphthalene	0.00076	₹JØ 0.	.00068	0.0038	mg/Kg-dry	1	20-Nov-2018 21:2
Phenanthrene	U	(	0.0017	0.0038	mg/Kg-dry	1	20-Nov-2018 21:2
Pyrene	0.00079	8 JQ 0.	.00068	0.0038	mg/Kg-dry	1	20-Nov-2018 21:2
Surr: 2-Fluorobiphenyl	82.0			43-125	%REC	1	20-Nov-2018 21:2
Surr: 4-Terphenyl-d14	93.8	and and the same a		32-125	%REC	1	20-Nov-2018 21:2
Surr: Nitrobenzene-d5	81.8			37-125	%REC	1	20-Nov-2018 21:2
PCBS BY SW8082A		Method:SW	8082		Prep:SW3541/36	65A / 20-Nov	-2018 Analyst: JBA
Arodor 1016	U	(	0.0048	0.019	mg/Kg-dry	1	21-Nov-2018 10:0
Aroclor 1221	U	(	0.0064	0.019	mg/Kg-dry	1	21-Nov-2018 10:0
Aroclor 1232	U	(	0.0051	0.019	mg/Kg-dry	1	21-Nov-2018 10:0
Aroclor 1242	U		0.0067	0.019	mg/Kg-dry	1	21-Nov-2018 10:0
Aroclor 1248	U	(	0.0067	0.019	mg/Kg-dry	1	21-Nov-2018 10:0
Aroclor 1254	U	(	0.0054	0.019	mg/Kg-dry	1	21-Nov-2018 10:0
Aroclor 1260	U	(	0.0046	0.019	mg/Kg-dry	1	21-Nov-2018 10:0
Surr: Decachlorobiphenyl	103			54-143	%REC	1	21-Nov-2018 10:0
Surr: Tetrachloro-m-xylene	80.5			50-140	%REC	1	21-Nov-2018 10:0
METALS BY SW6020A		Method:SW	6020		Prep.SW3050A /	20-Nov-2018	Analyst: JCJ
Arsenic	3.54	(	0.0750	0.536	mg/Kg-dry	1	21-Nov-2018 14:56
Cadmium	0.287	1300	0.0289	0.536	mg/Kg-dry	1	21-Nov-2018 14:56
Cobalt	4.08		0.0161	0.536	mg/Kg-dry	1	21-Nov-2018 14:56
iron	7,070		1.96	53.6	mg/Kg-dry	1	21-Nov-2018 14:56
Lead	3.83	JL (	0.0139	0.536	mg/Kg-dry		21-Nov-2018 14:56
Manganese	1,330	987 - c. c	4.61	53.6	mg/Kg-dry	100	21-Nov-2018 19:03
MOISTURE - ASTM D2216	M	ethod:ASTM	D2216				Analyst: JHE
Percent Moisture	12.8	100000000000000000000000000000000000000	0.0100	0.0100	wt%	1	20-Nov-2018 18:2



Weston Solutions, Inc.

FJD03-04-20181119-24-56

Project: Sample ID: FJ Doyle RA/TX

Collection Date:

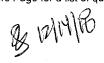
19-Nov-2018 14:31

**ANALYTICAL REPORT** 

WorkOrder:HS18111007 Lab ID:HS18111007-04

Matrix:Soil

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL PAHS		Method:SV	W8270		Prep:SW3541 / 2	0-Nov-2018	Analyst: ACN
Acenaphthene	U	(	0.00063	0.0042	mg/Kg-dry	1	20-Nov-2018 21:48
Acenaphthylene	U	ramanin in the tile and maker is recommonwere	0,0013	0.0042	mg/Kg-dry	1	20-Nov-2018 21:48
Anthracene	U	1	0.00063	0.0042	mg/Kg-dry	1	20-Nov-2018 21:48
Benz(a)anthracene	U	***************************************	0.0020	0.0042	mg/Kg-dry	1	20-Nov-2018 21:48
Benzo(a)pyrene	U		0.0013	0.0042	mg/Kg-dry	1	20-Nov-2018 21:48
Benzo(b)fluoranthene	U	***************************************	0.0015	0.0042	mg/Kg-dry	1	20-Nov-2018 21:48
Benzo(g,h,i)perylene	0.0018	8 JQ 1	0.00089	0.0042	mg/Kg-dry	1	20-Nov-2018 21:48
Benzo(k)fluoranthene	Ū		0.0011	0.0042	mg/Kg-dry	1	20-Nov-2018 21:48
Chrysene	U		0.0010	0.0042	mg/Kg-dry	1	20-Nov-2018 21:48
Dibenz(a,h)anthracene	U	Sillen en reklidere er nen is framer is filt is re	0.0020	0.0042	mg/Kg-dry	1	20-Nov-2018 21:48
Fluoranthene	U		0.0014	0.0042	mg/Kg-dry	1	20-Nov-2018 21:48
Fluorene	U		0.0014	0.0042	mg/Kg-dry	1	20-Nov-2018 21:48
Indeno(1,2,3-cd)pyrene	0.0018	J 59	0.0010	0.0042	mg/Kg-dry	1	20-Nov-2018 21:48
Naphthalene	U		0.00076	0.0042	mg/Kg-dry	1	20-Nov-2018 21:48
Phenanthrene	U		0.0019	0.0042	mg/Kg-dry	1	20-Nov-2018 21:48
Pyrene	U		0.00076	0.0042	mg/Kg-dry	1	20-Nov-2018 21:48
Surr: 2-Fluorobiphenyl	83.1			43-125	%REC	1	20-Nov-2018 21:48
Surr: 4-Terphenyl-d14	94.7	en 11 er enwenn un dem en van 60000erenen verbildbeweren e	Maria II o camenamento como como	32-125	%REC	1	20-Nov-2018 21:48
Surr: Nitrobenzene-d5	77.7			37-125	%REC	1	20-Nov-2018 21:48
PCBS BY SW8082A		Method:SV	V8082		Prep:SW3541/36	65A / 20-Nov	-2018 Analyst: JBA
Aroclor 1016	U		0.0053	0.021	mg/Kg-dry	1	21-Nov-2018 10:16
Aroclor 1221	U		0.0070	0.021	mg/Kg-dry	1	21-Nov-2018 10:16
Aroclor 1232	U		0.0057	0.021	mg/Kg-dry	1	21-Nov-2018 10:16
Aroclor 1242	U	The control of the co	0.0074	0.021	mg/Kg-dry	1	21-Nov-2018 10:16
Aroclor 1248	U		0.0074	0.021	mg/Kg-dry	1	21-Nov-2018 10:16
Aroclor 1254	U		0.0059	0.021	mg/Kg-dry	1	21-Nov-2018 10:16
Aroclor 1260	U		0.0050	0.021	mg/Kg-dry	1 -	21-Nov-2018 10:16
Surr: Decachlorobiphenyl	108	·		54-143	%REC	1	21-Nov-2018 10:16
Surr: Tetrachloro-m-xylene	94.0			50-140	%REC	1	21-Nov-2018 10:16
METALS BY SW6020A	22.002	Method:SV	V6020		Prep:SW3050A /	20-Nov-2018	Analyst: JCJ
Arsenic	5.12	**************************************	0.0847	0.605	mg/Kg-dry	1	21-Nov-2018 14:58
Cadmium	0.312	430	0.0327	0.605	mg/Kg-dry	1	21-Nov-2018 14:58
Cobalt	5.34	•	0.0182	0.605	mg/Kg-dry	1	21-Nov-2018 14:58
Iron	12,600	e a consideration and a consideration of paperson	2.21	60.5	mg/Kg-dry	1	21-Nov-2018 14:58
Lead	7.62	ゴレ	0.0157	0.605	mg/Kg-dry	1	21-Nov-2018 14:58
Manganese	1,160	. ***** *; , , , , , , ,	5.20	60.5	mg/Kg-dry	100	21-Nov-2018 19:06
MOISTURE - ASTM D2216	١.	/lethod:AST/	M D2216				Analyst: JHD
Percent Moisture	21.1		0.0100	0.0100	wt%	1	20-Nov-2018 18:21



Weston Solutions, Inc.

Project:

FJ Doyle RA/TX

Sample ID:

FJD03-07-20181119-06-56

Collection Date: 19-Nov-2018 12:14

**ANALYTICAL REPORT** 

WorkOrder:HS18111007 Lab ID:HS18111007-05

Matrix:Soil

Collection Date.	15-1101-2010	12.17			ivia	Wattix. Son			
ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED		
LOW-LEVEL PAHS		Method:	SW8270	1.	Prep SW3541 / 2	0-Nov-2018	Analyst: ACN		
Acenaphthene	U		0.00061	0.0040	mg/Kg-dry	1	20-Nov-2018 22:08		
Acenaphthylene	U	ne dan dan garanan dan sayar sa da gar	0.0012	0.0040	mg/Kg-dry	1	20-Nov-2018 22:08		
Anthracene	0.00062	J J0	∑0.00061	0.0040	mg/Kg-dry	1	20-Nov-2018 22:08		
Benz(a)anthracene	U		0.0019	0.0040	mg/Kg-dry	1	20-Nov-2018 22:08		
Benzo(a)pyrene	0.0016	J J6	0.0012	0.0040	mg/Kg-dry	1	20-Nov-2018 22:08		
Benzo(b)fluoranthene	0.0029	1	0.0015	0.0040	mg/Kg-dry	1	20-Nov-2018 22:08		
Benzo(g,h,i)perylene	0.0016	イト	0.00085	0.0040	mg/Kg-dry	1	20-Nov-2018 22:08		
Benzo(k)fluoranthene	U	et a et e energe en distancie et de Atlenaer	0.0011	0.0040	mg/Kg-dry	1	20-Nov-2018 22:08		
Chrysene	0.0051		0.00097	0.0040	mg/Kg-dry	1	20-Nov-2018 22:08		
Dibenz(a,h)anthracene	U		0.0019	0.0040	mg/Kg-dry	1	20-Nov-2018 22:08		
Fluoranthene	0.0036	IL TO	0.0013	0.0040	mg/Kg-dry	1	20-Nov-2018 22:08		
Fluorene	U		0.0013	0.0040	mg/Kg-dry	1	20-Nov-2018 22:08		
Indeno(1,2,3-cd)pyrene	0.0011	J J6	0.00097	0.0040	mg/Kg-dry	1	20-Nov-2018 22:08		
Naphthalene	U		0.00073	0.0040	mg/Kg-dry	1	20-Nov-2018 22:08		
Phenanthrene	U		0.0018	0.0040	mg/Kg-dry	1	20-Nov-2018 22:08		
Pyrene	0.0037	JJG	0.00073	0.0040	mg/Kg-dry	1	20-Nov-2018 22:08		
Surr: 2-Fluorobiphenyl	80.8			43-125	%REC	1	20-Nov-2018 22:08		
Surr: 4-Terphenyl-d14	92.6	en de di menere entrodoscon estre e entrodoscon de		32-125	%REC	1	20-Nov-2018 22:08		
Surr: Nitrobenzene-d5	81.3			37-125	%REC	1	20-Nov-2018 22:08		
PCBS BY SW8082A	and the second second	Method:	SW8082		Prep:SW3541/36	65A / 20-Nov	-2018 Analyst: JBA		
Aroclor 1016	U		0.0051	0.020	mg/Kg-dry	1	21-Nov-2018 10:32		
Aroclor 1221	U		0.0068	0.020	mg/Kg-dry	1	21-Nov-2018 10:32		
Aroclor 1232	U		0.0054	0.020	mg/Kg-dry	1	21-Nov-2018 10:32		
Aroclor 1242	U		0.0071	0.020	mg/Kg-dry	1	21-Nov-2018 10:32		
Aroclor 1248	U		0.0071	0.020	mg/Kg-dry	1	21-Nov-2018 10:32		
Aroclor 1254	U		0.0057	0.020	mg/Kg-dry	1	21-Nov-2018 10:32		
Aroclor 1260	5.0		0.097	0.40	mg/Kg-dry	20	21-Nov-2018 13:57		
Surr: Decachlorobiphenyl	72.2	J		54-143	%REC	20	21-Nov-2018 13:57		
Surr: Decachlorobiphenyl	92.6			54-143	%REC	1	21-Nov-2018 10:32		
Surr: Tetrachloro-m-xylene	83.3	***************************************		50-140	%REC	1	21-Nov-2018 10:32		
Surr: Tetrachloro-m-xylene	97.2	J		50-140	%REC	20	21-Nov-2018 13:57		
METALS BY SW6020A		Method:	SW6020		Prep:SW3050A /	20-Nov-2018	Analyst: JCJ		
Arsenic	8.69		0.0792	0.566	mg/Kg-dry	1	21-Nov-2018 15:00		
Cadmium	0.829	0.000	0.0305	0.566	mg/Kg-dry	1	21-Nov-2018 15:00		
Cobalt	6.12		0.0170	0.566	mg/Kg-dry	1	21-Nov-2018 15:00		
Iron	11,500	** ***** *****************************	2.07	56.6	mg/Kg-dry	1	21-Nov-2018 15:00		
Lead	78.1	JL	0.0147	0.566	mg/Kg-dry	1	21-Nov-2018 15:00		
Manganese	1,120	and the second of the second o	4.86	56.6	mg/Kg-dry	100	21-Nov-2018 19:08		

Note: See Qualifiers Page for a list of qualifiers and their explanation.

& 12/14/18

ALS Houston, US

Date: 29-Nov-18

Client:

Weston Solutions, Inc.

Project:

FJ Doyle RA/TX

Sample ID:

FJD03-07-20181119-06-56

Collection Date:

19-Nov-2018 12:14

**ANALYTICAL REPORT** 

WorkOrder:HS18111007

Lab ID:HS18111007-05

ANALYSES	RESULT Q	UAL MDL	REPORT LIMIT	UNITS	DILUTION	DATE ANALYZED
MOISTURE - ASTM D2216 Percent Moisture	Met 17.7	hod:ASTM D2216 0.0100	0.0100	wt%	1	Analyst: JHD 20-Nov-2018 18:21

Weston Solutions, Inc.

Project:

FJ Doyle RA/TX

Sample ID:

FJD03-07-20181119-06-57

Collection Date:

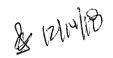
19-Nov-2018 12:14

**ANALYTICAL REPORT** 

WorkOrder:HS18111007 Lab ID:HS18111007-06

Matrix:Soil

Concollon Bate.	13 1404 20 10 12.14			Wat A. Ool				
ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED	
LOW-LEVEL PAHS		Method	:SW8270	Wantson Color	Prep.SW3541 / 2	0-Nov-2018	Analyst: ACN	
Acenaphthene	U		0.00061	0.0040	mg/Kg-dry	1	20-Nov-2018 22:27	
Acenaphthylene	U		0.0012	0.0040	mg/Kg-dry	1	20-Nov-2018 22:27	
Anthracene	0.00075	NJ	Q 0.00061	0.0040	mg/Kg-dry	1	20-Nov-2018 22:27	
Benz(a)anthracene	0.0034	١ ال	0.0019	0.0040	mg/Kg-dry	1	20-Nov-2018 22:27	
Benzo(a)pyrene	0.0038	+ 1	0.0012	0.0040	mg/Kg-dry	1	20-Nov-2018 22:27	
Benzo(b)fluoranthene	0.0055		0.0015	0.0040	mg/Kg-dry	1	20-Nov-2018 22:27	
Benzo(g,h,i)perylene	0.0046		0.00085	0.0040	mg/Kg-dry	1	20-Nov-2018 22:27	
Benzo(k)fluoranthene	0.0032	ょり	<b>©</b> 0.0011	0.0040	mg/Kg-dry	1	20-Nov-2018 22:27	
Chrysene	0.0057		0.00097	0.0040	mg/Kg-dry	1	20-Nov-2018 22:27	
Dibenz(a,h)anthracene	U		0.0019	0.0040	mg/Kg-dry	1	20-Nov-2018 22:27	
Fluoranthene	0.0086		0.0013	0.0040	mg/Kg-dry	1	20-Nov-2018 22:27	
Fluorene	U	o #1111111 vo	0.0013	0.0040	mg/Kg-dry	1	20-Nov-2018 22:27	
Indeno(1,2,3-cd)pyrene	0.0032	at J.	₹ 0.00097	0.0040	mg/Kg-dry	1	20-Nov-2018 22:27	
Naphthalene	0.0010	かし	0.00073	0.0040	mg/Kg-dry	1	20-Nov-2018 22:27	
Phenanthrene	0.0084		0.0018	0.0040	mg/Kg-dry	1	20-Nov-2018 22:27	
Pyrene	0.0069		0.00073	0.0040	mg/Kg-dry	1	20-Nov-2018 22:27	
Surr: 2-Fluorobiphenyl	80.5			43-125	%REC	1	20-Nov-2018 22:27	
Surr: 4-Terphenyl-d14	94.7			32-125	%REC	1	20-Nov-2018 22:27	
Surr: Nitrobenzene-d5	80.4			37-125	%REC	1	20-Nov-2018 22:27	
PCBS BY SW8082A	74.	Method	:SW8082		Prep:SW3541/36	65A / 20-Nov	-2018 Analyst: JBA	
Aroclor 1016	U		0.0051	0.020	mg/Kg-dry	1	21-Nov-2018 12:07	
Aroclor 1221	U		0.0068	0.020	mg/Kg-dry	1	21-Nov-2018 12:07	
Aroclor 1232	U		0.0055	0.020	mg/Kg-dry	1	21-Nov-2018 12:07	
Aroclor 1242	U		0.0072	0.020	mg/Kg-dry	1	21-Nov-2018 12:07	
Aroclor 1248	U		0.0072	0.020	mg/Kg-dry	1	21-Nov-2018 12:07	
Aroclor 1254	U		0.0057	0.020	mg/Kg-dry	1	21-Nov-2018 12:07	
Aroclor 1260	20		0.97	4.1	mg/Kg-dry	200	21-Nov-2018 14:13	
Surr: Decachlorobiphenyl	5.00	JS		54-143	%REC	200	21-Nov-2018 14:13	
Surr: Decachlorobiphenyl	117			54-143	%REC	1	21-Nov-2018 12:07	
Surr: Tetrachloro-m-xylene	80.5			50-140	%REC	1	21-Nov-2018 12:07	
Surr: Tetrachloro-m-xylene	39.0	JS		50-140	%REC	200	21-Nov-2018 14:13	
METALS BY SW6020A	And the Annual A	Method:	SW6020	146 - 17 1424 - 1844 14 1	Prep:SW3050A /	20-Nov-2018	Analyst: JCJ	
Arsenic	10.3		0.0806	0.576	mg/Kg-dry		21-Nov-2018 15:07	
Cadmium	1.08	ana 1994 Maria saharani sara 1995, nganjaga ana a	0.0311	0.576	mg/Kg-dry		21-Nov-2018 15:07	
Cobalt	7.63		0.0173	0.576	mg/Kg-dry		21-Nov-2018 15:07	
lron	14,600		2.11	57.6	mg/Kg-dry	was a same and the same and a construction and a	21-Nov-2018 15:07	
Lead	96.4	ゴレ	0.0150	0.576	mg/Kg-dry		21-Nov-2018 15:07	
Manganese	1,300		4.95	57.6	mg/Kg-dry		21-Nov-2018 19:10	



**ALS Houston, US** 

Date: 29-Nov-18

Client:

Weston Solutions, Inc.

Project:

FJ Doyle RA/TX

Sample ID:

FJD03-07-20181119-06-57

Collection Date:

19-Nov-2018 12:14

**ANALYTICAL REPORT** 

WorkOrder:HS18111007 Lab ID:HS18111007-06

ANALYSES	RESULT QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
MOISTURE - ASTM D2216		:ASTM D2216	0.0100	<del>4</del> 0/	-ner en 1	Analyst: JHD
Percent Moisture	18.1	0.0100	0.0100	wt%	1	20-Nov-2018 18

Client: Project: Weston Solutions, Inc.

FJ Doyle RA/TX

Sample ID:

FJD03-08-20181119-24-56

Collection Date: 19-Nov-2018 16:00

**ANALYTICAL REPORT** 

WorkOrder:HS18111007 Lab ID:HS18111007-07

Matrix:Soil

Collection Date.	19-1100-2010	10.00			Watrix.30ff					
ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED			
LOW-LEVEL PAHS		Method:S	W8270		Prep:SW3541 / 2	0-Nov-2018	Analyst: ACN			
Acenaphthene	U	0 00000/11 11 10000/21 11 10 10 10 10 10 10 10 10 10 10 10 10	0.00058	0.0038	mg/Kg-dry	1	20-Nov-2018 22:47			
Acenaphthylene	U		0.0012	0.0038	mg/Kg-dry	1	20-Nov-2018 22:47			
Anthracene	U		0.00058	0.0038	mg/Kg-dry	1	20-Nov-2018 22:47			
Benz(a)anthracene	U	A.L	0.0018	0.0038	mg/Kg-dry	1	20-Nov-2018 22:47			
Benzo(a)pyrene	U		0.0012	0.0038	mg/Kg-dry	1	20-Nov-2018 22:47			
Benzo(b)fluoranthene	0.0018	A 30	0.0014	0.0038	mg/Kg-dry	1	20-Nov-2018 22:47			
Benzo(g,h,i)perylene	0.0016	لا لا	0.00081	0.0038	mg/Kg-dry	1	20-Nov-2018 22:47			
Benzo(k)fluoranthene	Ŭ	- 15.50	0.0010	0.0038	mg/Kg-dry	1	20-Nov-2018 22:47			
Chrysene	0.0015	PUL	0.00092	0.0038	mg/Kg-dry	1	20-Nov-2018 22:47			
Dibenz(a,h)anthracene	U		0.0018	0.0038	mg/Kg-dry	1	20-Nov-2018 22:47			
Fluoranthene	U		0.0013	0.0038	mg/Kg-dry	1	20-Nov-2018 22:47			
Fluorene	U		0.0013	0.0038	mg/Kg-dry	1	20-Nov-2018 22:47			
Indeno(1,2,3-cd)pyrene	0.0014	PEG	0.00092	0.0038	mg/Kg-dry	1	20-Nov-2018 22:47			
Naphthalene	U		0.00069	0.0038	mg/Kg-dry	1	20-Nov-2018 22:47			
Phenanthrene	U		0.0017	0.0038	mg/Kg-dry	1	20-Nov-2018 22:47			
Pyrene	0.0011	9Er	0.00069	0.0038	mg/Kg-dry	1	20 <b>-N</b> ov-2018 22:47			
Surr: 2-Fluorobiphenyl	77.9			43-125	%REC	1	20-Nov-2018 22:47			
Surr: 4-Terphenyl-d14	93.5	· · · · · · · · · · · · · · · · · · ·		32-125	%REC	1	20-Nov-2018 22:47			
Surr: Nitrobenzene-d5	79.4			37-125	%REC	1	20-Nov-2018 22:47			
PCBS BY SW8082A		Method:S	W8082		Prep:SW3541/36	65A / 20-Nov	-2018 Analyst: JBA			
Aroclor 1016	U		0.0049	0.019	mg/Kg-dry	1	21-Nov-2018 12:23			
Aroclor 1221	U		0.0065	0.019	mg/Kg-dry	1	21-Nov-2018 12:23			
Aroclor 1232	U		0.0052	0.019	mg/Kg-dry	1	21-Nov-2018 12:23			
Aroclor 1242	U		0.0068	0.019	mg/Kg-dry	1	21-Nov-2018 12:23			
Aroclor 1248	U		0.0068	0.019	mg/Kg-dry	1	21-Nov-2018 12:23			
Aroclor 1254	U		0.0054	0.019	mg/Kg-dry	1	21-Nov-2018 12:23			
Aroclor 1260	0.72	圳	0.023	0.097	mg/Kg-dry	5	21-Nov-2018 14:29			
Surr: Decachlorobiphenyl	87.0	J		54-143	%REC	5	21-Nov-2018 14:29			
Surr: Decachlorobiphenyl	94.1			54-143	%REC	1	21-Nov-2018 12:23			
Surr: Tetrachloro-m-xylene	96.3		***************************************	50-140	%REC	1	21-Nov-2018 12:23			
Surr: Tetrachloro-m-xylene	82.7	J		50-140	%REC	5	21-Nov-2018 14:29			
METALS BY SW6020A	200	Method:S	W6020		Prep.SW3050A /	20-Nov-2018	Analyst: JCJ			
Arsenic	4.24		0.0762	0.544	mg/Kg-dry	1	21-Nov-2018 14:41			
Cadmium	0.260	PER	0.0294	0.544	mg/Kg-dry	1	21-Nov-2018 14:41			
Cobalt	4.16	•	0.0163	0.544	mg/Kg-dry	1	21-Nov-2018 14:41			
Iron	8,350	**************************************	1.99	54.4	mg/Kg-dry	1	21-Nov-2018 14:41			
Lead	8.50	ゴレ	0.0141	0.544	mg/Kg-dry	1	21-Nov-2018 14:41			
Manganese	841	vi.m.mm.m	4.68	54.4	mg/Kg-dry	***************************************	21-Nov-2018 18:28			



**ALS Houston, US** 

Date: 29-Nov-18

Client:

Weston Solutions, Inc.

Project:

FJ Doyle RA/TX

Sample ID:

FJD03-08-20181119-24-56

Collection Date:

19-Nov-2018 16:00

**ANALYTICAL REPORT** 

WorkOrder:HS18111007 Lab ID:HS18111007-07

ANALYSES	RESULT QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
MOISTURE - ASTM D2216	Method:AS	STM D2216	To a HE was			Analyst: JHD
Percent Moisture	13.7	0.0100	0.0100	wt%	1	20-Nov-2018 18:21

Weston Solutions, Inc.

Project:

FJ Doyle RA/TX

Sample ID: Collection Date: FJD05-04A-05-20181119-06-56

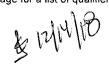
19-Nov-2018 11:58

**ANALYTICAL REPORT** 

WorkOrder:HS18111007 Lab ID:HS18111007-08

Matrix:Soil

					DILLITION	DATE	
ANALYSES	RESULT (	QUAL MDL	REPORT LIMIT	UNITS	DILUTION	ANALYZED	
LOW-LEVEL PAHS		Method:SW8270		Prep:SW3541 / :	20-Nov-2018	Analyst: ACN	
Acenaphthene	U	0.00065	0.0043	mg/Kg-dry	1	20-Nov-2018 23:07	
Acenaphthylene	U	0.0013	0.0043	mg/Kg-dry	1	20-Nov-2018 23:07	
Anthracene	0.0020	₹JQ 0.00065	0.0043	mg/Kg-dry	1	20-Nov-2018 23:07	
Benz(a)anthracene	0.0083	0.0021	0.0043	mg/Kg-dry	1	20-Nov-2018 23:07	
Benzo(a)pyrene	0.0096	0.0013	0.0043	mg/Kg-dry	1	20-Nov-2018 23:07	
Benzo(b)fluoranthene	0.011	0.0016	0.0043	mg/Kg-dry	1	20-Nov-2018 23:0	
Benzo(g,h,i)perylene	0.0067	0.00091	0.0043	mg/Kg-dry	1	20-Nov-2018 23:07	
Benzo(k)fluoranthene	0.0051	0.0012	0.0043	mg/Kg-dry	1	20-Nov-2018 23:07	
Chrysene	0.015	0.0010	0.0043	mg/Kg-dry	1	20-Nov-2018 23:07	
Dibenz(a,h)anthracene	U	0.0021	0.0043	mg/Kg-dry	1	20-Nov-2018 23:0	
Fluoranthene	0.014	0.0014	0.0043	mg/Kg-dry	1	20-Nov-2018 23:07	
Fluorene	0.0022	JA 0.0014	0.0043	mg/Kg-dry	1	20-Nov-2018 23:07	
Indeno(1,2,3-cd)pyrene	0.0066	0.0010	0.0043	mg/Kg-dry	1	20-Nov-2018 23:07	
Naphthalene	0.0028	J JQ 0.00078	0.0043	mg/Kg-dry	1	20-Nov-2018 23:07	
Phenanthrene	0.017	0.0019	0.0043	mg/Kg-dry	1	20-Nov-2018 23:07	
Pyrene	0.017	0.00078	0.0043	mg/Kg-dry	1	20-Nov-2018 23:0	
Surr: 2-Fluorobiphenyl	88.8		43-125	%REC	1	20-Nov-2018 23:0	
Surr: 4-Terphenyl-d14	99.5	and the second s	32-125	%REC	1	20-Nov-2018 23:0	
Surr: Nitrobenzene-d5	87.4		37-125	%REC	1	20-Nov-2018 23:0	
PCBS BY SW8082A		Method:SW8082		Prep:SW3541/3	365A / 20-Nov	-2018 Analyst: JBA	
Arocior 1016	U	0.0055	0.022	mg/Kg-dry	1	21-Nov-2018 12:38	
Aroclor 1221	U	0.0073	0.022	mg/Kg-dry	1	21-Nov-2018 12:38	
Aroclor 1232	U	0.0058	0.022	mg/Kg-dry	1	21-Nov-2018 12:38	
Aroclor 1242	U	0.0077	0.022	mg/Kg-dry	1	21-Nov-2018 12:38	
Aroclor 1248	U	0.0077	0.022	mg/Kg-dry	1	21-Nov-2018 12:38	
Aroclor 1254	U	0.0061	0.022	mg/Kg-dry	1	21-Nov-2018 12:38	
Aroclor 1260	0.19	0.0052	0.022	mg/Kg-dry	. 1	21-Nov-2018 12:38	
Surr: Decachlorobiphenyl	95.2	and the second s	54-143	%REC	1	21-Nov-2018 12:38	
Surr: Tetrachloro-m-xylene	89.3		50-140	%REC	1	21-Nov-2018 12:38	
METALS BY SW6020A		Method:SW6020		Prep:SW3050A	20-Nov-2018	Analyst: JCJ	
Arsenic	6.90	0.0878	0.627	mg/Kg-dry	1	21-Nov-2018 15:09	
Cadmium	0.641	0.0339	0.627	mg/Kg-dry	1	21-Nov-2018 15:09	
Cobalt	9.96	0.0188	0.627	mg/Kg-dry	1	21-Nov-2018 15:09	
iron	18,400	2.29	62.7	mg/Kg-dry	1	21-Nov-2018 15:09	
Lead	34.4 =	<b>ゴレ</b> 0.0163	0.627	mg/Kg-dry	1	21-Nov-2018 15:09	
Manganese	2,010	5.39	62.7	mg/Kg-dry	100	21-Nov-2018 19:12	
MOISTURE - ASTM D2216	Me	ethod:ASTM D221				Analyst: JHD	
Percent Moisture	23.1	0.0100		wt%	1	20-Nov-2018 18:21	



Weston Solutions, Inc.

Project:

FJ Doyle RA/TX

Sample ID:

Collection Date:

FJD02-08-20181119-12-56

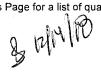
19-Nov-2018 12:07

**ANALYTICAL REPORT** 

WorkOrder:HS18111007 Lab ID:HS18111007-09

Matrix:Soil

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL PAHS		Method:	SW8270		Prep.SW3541 / 2	0-Nov-2018	Analyst: ACN
Acenaphthene	U		0.00064	0.0042	mg/Kg-dry	1	20-Nov-2018 23:26
Acenaphthylene	U		0.0013	0.0042	mg/Kg-dry	1	20-Nov-2018 23:26
Anthracene	0.0011	JP 4	0.00064	0.0042	mg/Kg-dry	1	20-Nov-2018 23:26
Benz(a)anthracene	0.0028	الر	0.0020	0.0042	mg/Kg-dry	1	20-Nov-2018 23:26
Benzo(a)pyrene	0.0029	J J	0.0013	0.0042	mg/Kg-dry	1	20-Nov-2018 23:26
Benzo(b)fluoranthene	0.0080		0.0015	0.0042	mg/Kg-dry	1	20-Nov-2018 23:26
Benzo(g,h,i)perylene	0.0046		0.00089	0.0042	mg/Kg-dry	1	20-Nov-2018 23:26
Benzo(k)fluoranthene	0.0023	\$JQ	0.0011	0.0042	mg/Kg-dry	1	20-Nov-2018 23:26
Chrysene	0.0053	·	0.0010	0.0042	mg/Kg-dry	1	20-Nov-2018 23:26
Dibenz(a,h)anthracene	U		0.0020	0.0042	mg/Kg-dry	1	20-Nov-2018 23:26
Fluoranthene	0.0038	JJQ	0.0014	0.0042	mg/Kg-dry	1	20-Nov-2018 23:26
Fluorene	U		0.0014	0.0042	mg/Kg-dry	1	20-Nov-2018 23:26
Indeno(1,2,3-cd)pyrene	0.0044		0.0010	0.0042	mg/Kg-dry	1	20-Nov-2018 23:26
Naphthalene	0.00094	少证	0.00077	0.0042	mg/Kg-dry	1	20-Nov-2018 23:26
Phenanthrene	0.0031	مل تر	0.0019	0.0042	mg/Kg-dry	1	20-Nov-2018 23:26
Pyrene	0.0042	******************	0.00077	0.0042	mg/Kg-dry	1	20-Nov-2018 23:26
Surr: 2-Fluorobiphenyl	86.6			43-125	%REC	1	20-Nov-2018 23:26
Surr: 4-Terphenyl-d14	100	00000000000000000000000000000000000000	0.000.000000000000000000000000000000000	32-125	%REC	1	20-Nov-2018 23:26
Surr: Nitrobenzene-d5	85.7			37-125	%REC	1	20-Nov-2018 23:26
PCBS BY SW8082A		Method:	SW8082		Prep:SW3541/36	65A / 20-Nov	-2018 Analyst: JBA
Aroclor 1016	U		0.0054	0.021	mg/Kg-dry	1	21-Nov-2018 12:54
Aroclor 1221	U		0.0071	0.021	mg/Kg-dry	1	21-Nov-2018 12:54
Aroclor 1232	U		0.0057	0.021	mg/Kg-dry	1	21-Nov-2018 12:54
Aroclor 1242	U		0.0075	0.021	mg/Kg-dry	1	21-Nov-2018 12:54
Aroclor 1248	U		0.0075	0.021	mg/Kg-dry	1	21-Nov-2018 12:54
Aroclor 1254	U		0.0060	0.021	mg/Kg-dry	1	21-Nov-2018 12:54
Aroclor 1260	0.18		0.0051	0.021	mg/Kg-dry	1	21-Nov-2018 12:54
Surr: Decachlorobiphenyl	101			54-143	%REC	1	21-Nov-2018 12:54
Surr: Tetrachloro-m-xylene	87.3			50-140	%REC	1	21-Nov-2018 12:54
METALS BY SW6020A	128 A.	Method:	SW6020		Prep:SW3050A /	20-Nov-2018	Analyst: JCJ
Arsenic	28.1		0.0851	0.608	mg/Kg-dry	1	21-Nov-2018 15:11
Cadmium	0.437	430	0.0328	0.608	mg/Kg-dry	1	21-Nov-2018 15:11
Cobalt	6.60		0.0182	0.608	mg/Kg-dry		21-Nov-2018 15:11
lron .	12,800	1 - 74 hat 100° 100 1 000000000000000000000000000	2.22	60.8	mg/Kg-dry	* - 4 ********************	21-Nov-2018 15:11
Lead	21.2	ゴレ	0.0158	0.608	mg/Kg-dry		21-Nov-2018 15:11
Manganese	1,420		5.23	60.8	mg/Kg-dry		21-Nov-2018 19:15
MOISTURE - ASTM D2216	SECRETARIA (LLA SERIA PANTAFINARIA)	Method:AS					Analyst: JHD
Percent Moisture	21.9		0.0100	0.0100	wt%	1	20-Nov-2018 18:21



Weston Solutions, Inc.

Project:

FJ Doyle RA/TX

Sample ID:

FJD03-05-20181119-06-56

Collection Date:

19-Nov-2018 12:21

**ANALYTICAL REPORT** 

WorkOrder:HS18111007 Lab ID:HS18111007-10

Matrix:Soil

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL PAHS		Method:S	W8270		Prep SW3541 / 2	0-Nov-2018	Analyst: ACN
Acenaphthene	U		0.00065	0.0043	mg/Kg-dry	1	20-Nov-2018 23:46
Acenaphthylene	U		0.0013	0.0043	mg/Kg-dry	1	20-Nov-2018 23:46
Anthracene	U		0.00065	0.0043	mg/Kg-dry	1	20-Nov-2018 23:46
Benz(a)anthracene	U	androge of region recovery, communication	0.0021	0.0043	mg/Kg-dry	1	20-Nov-2018 23:46
Benzo(a)pyrene	0.0014	DEN	0.0013	0.0043	mg/Kg-dry	1	20-Nov-2018 23:46
Benzo(b)fluoranthene	0.0018	<i>/</i>	0.0016	0.0043	mg/Kg-dry	1	20-Nov-2018 23:46
Benzo(g,h,i)perylene	0.0012	4 4	0.00091	0.0043	mg/Kg-dry	1	20-Nov-2018 23:46
Benzo(k)fluoranthene	U	ekil terten nidlett i i i til i i tttell i	0.0012	0.0043	mg/Kg-dry	1	20-Nov-2018 23:46
Chrysene	0.0017	770	0.0010	0.0043	mg/Kg-dry	1	20-Nov-2018 23:46
Dibenz(a,h)anthracene	U		0.0021	0.0043	mg/Kg-dry	1	20-Nov-2018 23:46
Fluoranthene	0.0016	200	0.0014	0.0043	mg/Kg-dry	1	20-Nov-2018 23:46
Fluorene	U		0.0014	0.0043	mg/Kg-dry	1	20-Nov-2018 23:46
Indeno(1,2,3-cd)pyrene	0.0011	270	0.0010	0.0043	mg/Kg-dry	1	20-Nov-2018 23:46
Naphthalene	Ŭ		0.00078	0.0043	mg/Kg-dry	1	20-Nov-2018 23:46
Phenanthrene	U		0.0019	0.0043	mg/Kg-dry	1	20-Nov-2018 23:46
Pyrene	0.0019	530	0.00078	0.0043	mg/Kg-dry	1	20-Nov-2018 23:46
Surr: 2-Fluorobiphenyl	88.6	`		43-125	%REC	1	20-Nov-2018 23:46
Surr: 4-Terphenyl-d14	96.2	***************************************	gg, vo. ggggggt top you to vo. a. t	32-125	%REC	1	20-Nov-2018 23:46
Surr: Nitrobenzene-d5	85.5			37-125	%REC	1	20-Nov-2018 23:46
PCBS BY SW8082A	Set (delloque)	Method:S	W8082		Prep:SW3541/36	65A / 20-Nov	-2018 Analyst: JBA
Aroclor 1016	U		0.0054	0.022	mg/Kg-ary	1	21-Nov-2018 08:42
Aroclor 1221	U		0.0073	0.022	mg/Kg-dry	1	21-Nov-2018 08:42
Aroclor 1232	U		0.0058	0.022	mg/Kg-dry	1	21-Nov-2018 08:42
Aroclor 1242	U		0.0076	0.022	mg/Kg-dry	1	21-Nov-2018 08:42
Aroclor 1248	U		0.0076	0.022	mg/Kg-dry	1	21-Nov-2018 08:42
Aroclor 1254	U	***************************************	0.0061	0.022	mg/Kg-dry	1	21-Nov-2018 08:42
Aroclor 1260	0.45		0.010	0.043	mg/Kg-dry	2	21-Nov-2018 13:10
Surr: Decachlorobiphenyl	101	TO A TO A TOTAL AND A TOTAL AND A SECOND ASSESSMENT		54-143	%REC	2	21-Nov-2018 13:10
Surr: Decachlorobiphenyl	101			54-143	%REC	1	21-Nov-2018 08:42
Surr: Tetrachloro-m-xylene	78.7			50-140	%REC	1	21-Nov-2018 08:42
Surr: Tetrachloro-m-xylene	75.0			50-140	%REC	2	21-Nov-2018 13:10
METALS BY SW6020A	7700	Method:S	W6020		Prep:SW3050A /	20-Nov-2018	Analyst: JCJ
Arsenic	10.1		0.0850	0.607	mg/Kg-dry		21-Nov-2018 15:13
Cadmium	0.455	436	0.0328	0.607	mg/Kg-dry		21-Nov-2018 15:13
Cobalt	10.8		0.0182	0.607	mg/Kg-dry		21-Nov-2018 15:13
ron	20,900	V M-M-M-M-M-M-M-M-M-M-M-M-M-M-M-M-M-M	2.22	60.7	mg/Kg-dry		21-Nov-2018 15:13
Lead		ゴレ	0.0158	0.607	mg/Kg-dry		21-Nov-2018 15:13
Manganese	1,960		5.22	60.7	mg/Kg-dry		21-Nov-2018 19:17



**ALS Houston, US** 

Date: 29-Nov-18

Client:

Weston Solutions, Inc.

Project:

FJ Doyle RA/TX

Sample ID:

FJD03-05-20181119-06-56

Collection Date:

19-Nov-2018 12:21

**ANALYTICAL REPORT** 

WorkOrder:HS18111007

Lab ID:HS18111007-10

ANALYSES	RESULT QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
MOISTURE - ASTM D2216	Method:AS			404		Analyst: JHD
Percent Moisture	22.9	0.0100	0.0100	wt%	1	20-Nov-2018 18:21

# DATA QUALITY ASSURANCE REVIEW

SITE NAME Frank J. Doy	le Salvage Removal Action	on	
WORK ORDER NUMBER	20600.012.001.1175.01	TDD NUMBER	0001/18-175
PROJECT NUMBER		SDG NUMBER	HS18111105
Weston Solutions, Inc. (WES 20600.012.001.1175.01; SDG No. analyzed for Polychlorinated Biphebelow.	HS18111105; Frank J. De	oyle Salvage Rem	
	SAMPLE NUM	IBERS	
FJD03-09NSEW-20181120-06-56	FJD03-10NW-201811	20-24-56 FJ	ID06-01-20181120-12-56
	<u> </u>		
	<u> </u>		
This data package was validated to USEPA National Functional Guidelines of Laboratory Program National Full (April, 2016), Quality Assurance/of the Regional Protocol for Holding qualifications are listed in the follows:	elines for Organic Superfi for Inorganic Superfund Inctional Guidelines for I Quality Control Guidance Ig Times, Blanks, and V	und Methods Data Data Review (Ja High Resolution S e for Removal Acti	Review (January, 2017), USEPA contract muary, 2017), USEPA Contract Superfund Methods Data Review ivities (September, 2011), and/or
PEVIEWER Gloria I Swi	talski	DATE	December 26, 2018

### **Data Qualifiers**

Data Qualifier Definitions were supplied by the Office of Solid Waste and Emergency Response (September 1989) and are included in the Functional Guidelines. Data qualifiers may be combined (UJ, QJ) with the corresponding combination of meanings. Additional qualifiers may be added to provide additional, more specific information (JL, UB, QJK), modifying the meaning of the primary qualifier. Additional qualifiers utilized by WESTON are H, L, K, B, and Q.

U - The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation or detection limit, which has been adjusted for sample weight/sample volume, extraction volume, percent solids, sample dilution or other analysis specific parameters.

An additional qualifier, "B", may be appended to indicate that while the analyte was detected in the sample, the presence of the analyte may be attributable to blank contamination and the analyte is therefore considered undetected with the sample detection or quantitation limit for the analyte being elevated.

J - The analyte was analyzed for, but the associated numerical value may not be consistent with the amount actually present in the environmental sample or may not be consistent with the sample detection or quantitation limit. The value is an estimated quantity. The data should be seriously considered for decision-making and are usable for many purposes.

An additional qualifier will be appended to the "J" qualifier that indicates the bias in the reported results:

- L Low bias
- H High bias
- K Unknown bias
- Q The reported concentration is less than the sample quantitation limit for the specific analyte in the sample.

The L and H qualifier will only be employed when a single qualification is required. When more than one quality control parameter affects the analytical result and a conflict results in assigning a bias, the result will be flagged JK.

- R Quality Control indicates that data are unusable for all purposes. The analyte was analyzed for, but the presence or absence of the analyte has not been verified. Resampling and reanalysis are necessary for verification to confirm or deny the presence of an analyte.
- N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

#### PCB FRACTION EVALUATION

# 1. Analytical Method:

Samples were prepared and analyzed for PCBs using the procedures specified in SW-846 Method 8082A.

#### 2. Holding Time:

The samples were received within the recommended  $\leq$ 6°C NFG limit. All samples were extracted within the required holding time of less than 1 year after collection. Analysis of the samples was conducted within 40 days of extraction. No qualifications are placed on the data.

### 3. Initial Calibration:

The correlation coefficient of the multipoint initial calibration was greater than or equal to 0.995 or the percent relative standard deviation (%RSD) was less than or equal to 20%. No qualifications are placed on the data.

### 4. Continuing Calibration:

The continuing calibration check was analyzed at the required frequency and met recovery requirements of 75%-125% [percent difference (%D) was less than 25%]. No qualifications are placed on the data.

#### 5. Blanks:

#### A. Laboratory Blanks:

A method blank was prepared at the required frequency of every time samples were extracted for each matrix and concentration or every 20 samples whichever is greater. No target analytes were detected in the method blanks at concentrations that warrant blank action. No qualifications are placed on the data.

## B. Field Blanks:

No field blank samples were submitted with this analytical package. No qualifications are placed on the data.

#### 6. Surrogates:

All recoveries of the surrogates were within the control limits provided or were diluted out. No qualifications are placed on the data.

# 7. Matrix Spikes/Matrix Spike Duplicates (MS/MSD):

No sample from this analytical package underwent MS/MSD analysis for the solid matrix. No qualifications are placed on the data.

# 8. Duplicates:

# A. Laboratory Duplicate Analysis:

No sample from this analytical package underwent MS/MSD analysis for the solid matrix. No qualifications are placed on the data.

## B. Field Duplicate Analysis:

No field duplicate samples were submitted with this analytical package. No qualifications are placed on the data.

### 9. Laboratory Control Sample (LCS):

The laboratory analyzed an LCS and recoveries were within the control limits provided. No qualifications are placed on the data.

# 10. Target Compound Identification, Quantitation, and Reporting Limits:

Concentrations of all reported compounds were correctly calculated.

The %D between the column results for the following analyte was above acceptance limits ( $\leq 25$ ):

SAMPLE ID ANALYTE		%D	QUALIFIER FLAG
FJD03-10NW-20181120-24-56	Aroclor 1260	26.5	JK

Some PCB samples were analyzed at a dilution for some compounds. Reporting limits for these compounds in these samples were elevated as a result of the dilutions performed.

### 11. Laboratory Contact:

The laboratory was contacted on December 13, 2018 regarding an incomplete method blank form. An acceptable response was received on December 24, 2018.

## 12. Overall Assessment:

The Aroclor 1260 result in one sample was estimated due to the high %D between the column results.

The analytical data is acceptable for use with the qualifications listed above.

# DATA QUALITY ASSURANCE REVIEW

SITE NAME Frank J. Doy	le Salvage Removal Action	n	
WORK ORDER NUMBER	20600.012.001.1175.01	TDD NUMBER	0001/18-175
PROJECT NUMBER		SDG NUMBER	HS18111105
Weston Solutions, Inc. (WES 20600.012.001.1175.01; SDG No. analyzed for Polynuclear Aromatic below.	HS18111105; Frank J. De	oyle Salvage Rem	
	SAMPLE NUM	BERS	
FJD03-09NSEW-20181120-06-56	FJD03-10NW-201811	20-24-56 F.	JD06-01-20181120-12-56
	- <u></u>		
This data package was validated to USEPA National Functional Guidelines of Laboratory Program National Fur (April, 2016), Quality Assurance/of the Regional Protocol for Holding qualifications are listed in the follows:	elines for Organic Superfi for Inorganic Superfund Inctional Guidelines for I Quality Control Guidance Ig Times, Blanks, and V	und Methods Data Data Review (Ja High Resolution S of for Removal Act	Review (January, 2017), USEPA muary, 2017), USEPA Contrac Superfund Methods Data Review ivities (September, 2011), and/or
PEVIEWER Gloria I Swi	talski	DATE	December 1/1 2018

#### **Data Qualifiers**

Data Qualifier Definitions were supplied by the Office of Solid Waste and Emergency Response (September 1989) and are included in the Functional Guidelines. Data qualifiers may be combined (UJ, QJ) with the corresponding combination of meanings. Additional qualifiers may be added to provide additional, more specific information (JL, UB, QJK), modifying the meaning of the primary qualifier. Additional qualifiers utilized by WESTON are H, L, K, B, and Q.

U - The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation or detection limit, which has been adjusted for sample weight/sample volume, extraction volume, percent solids, sample dilution or other analysis specific parameters.

An additional qualifier, "B", may be appended to indicate that while the analyte was detected in the sample, the presence of the analyte may be attributable to blank contamination and the analyte is therefore considered undetected with the sample detection or quantitation limit for the analyte being elevated.

J - The analyte was analyzed for, but the associated numerical value may not be consistent with the amount actually present in the environmental sample or may not be consistent with the sample detection or quantitation limit. The value is an estimated quantity. The data should be seriously considered for decision-making and are usable for many purposes.

An additional qualifier will be appended to the "J" qualifier that indicates the bias in the reported results:

- L Low bias
- H High bias
- K Unknown bias
- Q The reported concentration is less than the sample quantitation limit for the specific analyte in the sample.

The L and H qualifier will only be employed when a single qualification is required. When more than one quality control parameter affects the analytical result and a conflict results in assigning a bias, the result will be flagged JK.

- R Quality Control indicates that data are unusable for all purposes. The analyte was analyzed for, but the presence or absence of the analyte has not been verified. Resampling and reanalysis are necessary for verification to confirm or deny the presence of an analyte.
- N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

#### PAH FRACTION EVALUATION

# 1. Analytical Method:

Samples were prepared and analyzed using the procedures specified in SW-846 Method 8270D selective ion monitoring (SIM).

## 2. Holding Time:

The samples were received within the recommended  $\leq$ 6°C NFG limit. All samples were extracted within the required holding time of less than 7 days for waters and less than 14 days for solids/wastes after collection. Analysis of the samples was conducted within 40 days of extraction. No qualifications are placed on the data.

## 3. Tuning/Performance:

DFTPP tuning of the mass spectrometer(s) was conducted at the required frequency and results were within the required criteria. No qualifications are placed on the data.

#### 4. Initial Calibration:

All individual relative response factors (RRFs) and average RRFs for the initial calibration (IC) were greater than the compound dependent (see Table 34 of National Functional Guidelines) control limits. All percent relative standard deviations (%RSDs) were less than the compound dependent (see Table 34 of National Functional Guidelines) control limits or the correlation coefficient was > 0.990. No qualifications are placed on the data.

## 5. Continuing Calibration:

All individual RRFs for the initial calibration verification (ICV) and continuing calibration (CC) standards were greater than the compound dependent (see Table 34 of National Functional Guidelines) control limits. All percent differences (%Ds) were less than the compound dependent (see Table 34 of National Functional Guidelines) control limits. No qualifications are placed on the data.

#### 6. Blanks:

# A. Laboratory Blanks:

A method blank was prepared at the required frequency of every time samples were extracted for each matrix and concentration or every 20 samples whichever is greater. Target analytes were not detected in the method at concentrations that warrant blank action. No qualifications are placed on the data.

#### B Field Blanks:

No field blank samples were submitted with this analytical package. No qualifications are placed on the data.

### 7. System Monitoring Compounds (SMC):

All recoveries of the system monitoring compounds (surrogates) were within the control limits provided. No qualifications are placed on the data.

## 8. Duplicates:

# A. Laboratory Duplicate Analysis:

Sample FJD03-09NSEW-20181120-06-56 underwent matrix spike/matrix spike duplicate (MS/MSD) analysis for the solid matrix. QC criteria are that the relative percent difference (RPD) values for the duplicate sample analysis are less than 20% for aqueous samples and less than 35% for solid samples. All QC criteria were met. No qualifications are placed on the data.

## B. Field Duplicate Analysis:

No field duplicate samples were submitted with this analytical package. No qualifications are placed on the data.

# 9. Matrix Spike/Matrix Spike Duplicate:

Sample FJD03-09NSEW-20181120-06-56 underwent MS/MSD analysis for the solid matrix. Recoveries of all spiked analytes were within the control limits provided in both the matrix spike and matrix spike duplicate. No qualifications are placed on the data.

### 10. Internal Standards:

Areas of the six internal standards were within the control limits of a factor of 2 (-50% to +100%) and retention times were within 30 seconds from the associated 12 hour calibration standard. No qualifications are placed on the data.

## 11. Laboratory Control Sample (LCS):

The laboratory analyzed an LCS and recoveries were within the control limits provided. No qualifications are placed on the data.

#### 12. Target Compound Identification:

All target compounds reported by the laboratory met identification criteria of relative retention times (RRT) within 0.06 RRT units of the 12 hour standard and that all ions present in the standard mass spectrum were present in the sample mass spectrum and the abundance of these ions agreed within  $\pm$  20% of the standard. No qualifications are placed on the data.

## 13. Target Compound Quantitation and Reporting Limits:

Concentrations of all reported compounds were correctly calculated.

Reported concentrations less than the RL qualified "J" by the laboratory are qualified "JQ" to indicate that the result is less than the RL but greater than the method detection limit (MDL).

### 14. Laboratory Contact:

No laboratory contact was required.

# 15. Overall Assessment

Reported concentrations less than the RL qualified "J" by the laboratory were qualified "JQ" to indicate that the result is less than the RL but greater than the MDL.

The analytical data is acceptable for use with the qualifications listed above.

# DATA QUALITY ASSURANCE REVIEW

SHE NAME Frank J. Doyl	e Salvage Removal Action	on	
WORK ORDER NUMBER	20600.012.001.1175.01	TDD NUMBER	0001/18-175
PROJECT NUMBER		SDG NUMBER	HS18111105
Weston Solutions, Inc. (WEST 20600.012.001.1175.01; SDG No. I analyzed for metals (As, Cd, Co, Fe	HS18111105; Frank J. D	oyle Salvage Rem	oval Action. Three samples wer
	SAMPLE NUM	IBERS	
FJD03-09NSEW-20181120-06-56	FJD03-10NW-201811	20-24-56 FJ	JD06-01-20181120-12-56
This data package was validated to USEPA National Functional Guide National Functional Guidelines for Laboratory Program National Fun (April, 2016), Quality Assurance/Qualifications are listed in the follow	lines for Organic Superfi or Inorganic Superfund nctional Guidelines for A Quality Control Guidance g Times, Blanks, and V	und Methods Data Data Review (Ja High Resolution S e for Removal Act	Review (January, 2017), USEP Inuary, 2017), USEPA Contract Superfund Methods Data Revie ivities (September, 2011), and/o
REVIEWER Gloria I Switz	alski	DATE	December 26, 2018

## **Data Qualifiers**

Data Qualifier Definitions were supplied by the Office of Solid Waste and Emergency Response (September 1989) and are included in the Functional Guidelines. Data qualifiers may be combined (UJ, QJ) with the corresponding combination of meanings. Additional qualifiers may be added to provide additional, more specific information (JL, UB, QJK), modifying the meaning of the primary qualifier. Additional qualifiers utilized by WESTON are H, L, K, B, and Q.

U - The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation or detection limit, which has been adjusted for sample weight/sample volume, extraction volume, percent solids, sample dilution or other analysis specific parameters.

An additional qualifier, "B", may be appended to indicate that while the analyte was detected in the sample, the presence of the analyte may be attributable to blank contamination and the analyte is therefore considered undetected with the sample detection or quantitation limit for the analyte being elevated.

J - The analyte was analyzed for, but the associated numerical value may not be consistent with the amount actually present in the environmental sample or may not be consistent with the sample detection or quantitation limit. The value is an estimated quantity. The data should be seriously considered for decision-making and are usable for many purposes.

An additional qualifier will be appended to the "J" qualifier that indicates the bias in the reported results:

- L Low bias
- H High bias
- K Unknown bias
- Q The reported concentration is less than the sample quantitation limit for the specific analyte in the sample.

The L and H qualifier will only be employed when a single qualification is required. When more than one quality control parameter affects the analytical result and a conflict results in assigning a bias, the result will be flagged JK.

- R Quality Control indicates that data are unusable for all purposes. The analyte was analyzed for, but the presence or absence of the analyte has not been verified. Resampling and reanalysis are necessary for verification to confirm or deny the presence of an analyte.
- N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

#### METALS DATA EVALUATION

#### 1. Analytical Method:

Samples were prepared and analyzed for ICP metals using the procedures specified in SW-846 Method 6020A.

## 2. Holding Times:

All samples met established holding time criteria of 180 days for ICP metals. No qualifications are placed on the data.

#### 3. Initial Calibration:

ICP initial calibration included a blank and five standards and initial calibration verification results fell within the control limits of 90% to 110% of the true values. No qualifications are placed on the data.

# 4. Continuing Calibration:

All ICP results fell within the control limits of 90% to 110% of the true values. No qualifications are placed on the data.

#### 5. CRDL Standard:

All results for the CRDL standard were within the control limits of 70% to 130% of the true values or the sample results were greater than the CRDL action level. No qualifications are placed on the data.

#### 6. Blanks:

#### A. Laboratory Blanks:

A method blank was prepared at the required frequency of every time samples were prepared/digested for each matrix or every 20 samples whichever is greater. Target analytes were not detected in the method and calibration blanks at concentrations that warrant blank action. No qualifications are placed on the data.

#### B. Field Blanks:

No field blank samples were submitted with this analytical package. No qualifications are placed on the data.

#### 7. ICP Interference Check:

All results for the interference check sample were within the control limits of 80% to 120% of the true values. No qualifications are placed on the data.

#### 8. Laboratory Control Sample (LCS):

The recoveries for the LCS were within the control limits provided. No qualifications are placed on the data.

## 9. Duplicate Sample Analysis:

# A. Laboratory Duplicate Analysis:

No sample from this analytical package underwent matrix spike/matrix spike duplicate (MS/MSD) analysis for ICP metals for the solid matrix. No qualifications are placed on the data.

## B. Field Duplicate Analysis:

No field duplicate samples were submitted with this analytical package. No qualifications are placed on the data.

# 10. Spiked Sample Analysis:

No sample from this analytical package underwent MS/MSD analysis for ICP metals for the solid matrix. No qualifications are placed on the data.

#### 11. ICP Serial Dilution:

No sample from this analytical package underwent serial dilution for the solid matrix for ICP metals. No qualifications are placed on the data.

## 12. Sample Quantitation and Reporting Limits:

Concentrations of all reported analytes were correctly calculated.

Reported concentrations less than the reporting limit (RL) qualified "J" by the laboratory are qualified "JQ" to indicate that the result is less than the RL but greater than the method detection limit (MDL).

Some ICP metals analytes in some samples were analyzed at a 10, 50, 100, or 200-fold dilution. Reporting limits for these analytes in these samples were elevated as a result of the dilutions performed.

### 13. Laboratory Contact

The laboratory was contacted on December 13, 2018 regarding the lack of a sequence log and prep page. An acceptable response was received on December 24, 2018.

#### 14. Overall Assessment:

Reported concentrations less than the RL qualified "J" by the laboratory were qualified "JQ" to indicate that the result is less than the RL but greater than the MDL.

The analytical data is acceptable for use with the qualifications listed above.

Weston Solutions, Inc.

Project: Sample ID: FJ Doyle RA/TX

FJD03-09NSEW-20181120-06-56

Collection Date:

20-Nov-2018 13:07

**ANALYTICAL REPORT** 

WorkOrder:HS18111105 Lab ID:HS18111105-01

Matrix:Soil

Collection Date.	25 110 V 20 10 10.01							
ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED	
LOW-LEVEL PAHS	1878	Method:S	SW8270	1 A A	Prep.SW3541 / 2	1-Nov-2018	Analyst: GEY	
Acenaphthene	υ		0.00061	0.0040	mg/Kg-dry	1	21-Nov-2018 18:34	
Acenaphthylene	Ų		0.0012	0.0040	mg/Kg-dry	1	21-Nov-2018 18:34	
Anthracene	· U		0.00061	0.0040	mg/Kg-dry	1	21-Nov-2018 18:34	
Benz(a)anthracene	U		0.0019	0.0040	mg/Kg-dry	1	21-Nov-2018 18:34	
Benzo(a)pyrene	0.0038	NJQ	0.0012	0.0040	mg/Kg-dry	1	21-Nov-2018 18:34	
Benzo(b)fluoranthene	0.0031	اً لمر	0.0015	0.0040	mg/Kg-dry	1	21-Nov-2018 18:34	
Benzo(g,h,i)perylene	0.0021	1 1	0.00085	0.0040	mg/Kg-dry	1	21-Nov-2018 18:34	
Benzo(k)fluoranthene	U	1+80a,0000 0 4104444 444 - 001000000 .	0.0011	0.0040	mg/Kg-dry	1	21-Nov-2018 18:34	
Chrysene	0.0023	PUV	0.00097	0.0040	mg/Kg-dry	1	21-Nov-2018 18:34	
Dibenz(a,h)anthracene	U	·	0.0019	0.0040	mg/Kg-dry	1	21-Nov-2018 18:34	
Fluoranthene	0.0027	JJ9	0.0013	0.0040	mg/Kg-dry	1	21-Nov-2018 18:34	
Fluorene	U		0.0013	0.0040	mg/Kg-dry	1	21-Nov-2018 18:34	
Indeno(1,2,3-cd)pyrene	U		0.00097	0.0040	mg/Kg-dry	1	21-Nov-2018 18:34	
Naphthalene	U	**************************************	0.00073	0.0040	mg/Kg-dry	1	21-Nov-2018 18:34	
Phenanthrene	. <b>U</b>		0.0018	0.0040	mg/Kg-dry	1	21-Nov-2018 18:34	
Pyrene	0.0030	456	0.00073	0.0040	mg/Kg-dry	1	21-Nov-2018 18:34	
Surr: 2-Fluorobiphenyl	70.6	,		43-125	%REC	1	21-Nov-2018 18:34	
Surr: 4-Terphenyl-d14	94.2		305 70 m2 0 000 december 100 memory 100 memo	32-125	%REC	1	21-Nov-2018 18:34	
Surr: Nitrobenzene-d5	69.8			37-125	%REC	1	21-Nov-2018 18:34	
PCBS BY SW8082A		Method:	SW8082	1. 2	Prep:SW3541/36	65A / 21-Nov	-2018 Analyst: JBA	
Aroclor 1016	Ū		0.0051	0.020	mg/Kg-dry	1	26-Nov-2018 10:11	
Aroclor 1221	U	• Manager 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0.0068	0.020	mg/kg-dry	1	26-Nov-2018 10:11	
Aroclor 1232	U		0.0055	0.020	mg/Kg-dry	1	26-Nov-2018 10:11	
Aroclor 1242	U		0.0072	0.020	mg/Kg-dry	1	26-Nov-2018 10:11	
Aroclor 1248	U		0.0072	0.020	mg/Kg-dry	1	26-Nov-2018 10:11	
Aroclor 1254	U	·	0.0057	0.020	mg/Kg-dry	1	26-Nov-2018 10:11	
Aroclor 1260	1.7		0.048	0.20	mg/Kg-dry	10	26-Nov-2018 12:37	
Surr: Decachlorobiphenyl	94.5	J		54-143	%REC	10	26-Nov-2018 12:37	
Surr: Decachlorobiphenyl	82.1			54-143	%REC	1	26-Nov-2018 10:11	
Surr: Tetrachloro-m-xylene	97.2			50-140	%REC	1	26-Nov-2018 10:11	
Surr: Tetrachloro-m-xylene	94.5	J		50-140	%REC	10	26-Nov-2018 12:37	
METALS BY SW6020A		Method:S	W6020		Prep:SW3050A /	21-Nov-2018	Analyst: JCJ	
Arsenic	11.1		0.0788	0.563	mg/Kg-dry	1	27-Nov-2018 01:36	
Cadmium	0.424	PID	0.0304	0.563	mg/Kg-dry	1	27-Nov-2018 01:36	
Cobalt	7.04	,	0.0169	0.563	mg/Kg-dry	1	27-Nov-2018 01:36	
lron	13,300	M-0001000 11 Meller ( ) 11 11 10 10 10 10 10 10 10 10 10 10 10	2.06	56.3	mg/Kg-dry		27-Nov-2018 01:36	
Lead	22.0		0.146	5.63	mg/Kg-dry		30-Nov-2018 18:25	
Manganese	965		2.42	28.1	mg/Kg-dry	50	27-Nov-2018 15:36	

Note: See Qualifiers Page for a list of qualifiers and their explanation.

8 12/14/18

**ALS Houston, US** 

Date: 01-Dec-18

Client:

Weston Solutions, Inc.

Project:

FJ Doyle RA/TX

Sample ID:

FJD03-09NSEW-20181120-06-56

Collection Date:

20-Nov-2018 13:07

**ANALYTICAL REPORT** 

WorkOrder:HS18111105

Lab ID:HS18111105-01

ANALYSES	RESULT QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
MOISTURE - ASTM D2216 Percent Moisture	Method:AS 17.5	TM D2216 0.0100	0.0100	wt%	ppc 23-00 1	Analyst: JHD 21-Nov-2018 12:03

Client: Project: Weston Solutions, Inc.

FJ Doyle RA/TX

Sample ID:

FJD03-10NW-20181120-24-56

Collection Date:

20-Nov-2018 11:50

**ANALYTICAL REPORT** 

WorkOrder:HS18111105 Lab ID:HS18111105-02

Matrix:Soil

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL PAHS		Method:5	SW8270	r Kwasanan	Prep:SW3541 / 2	1-Nov-2018	Analyst GE
Acenaphthene	U		0.00064	0.0042	mg/Kg-dry	1	21-Nov-2018 19:3
Acenaphthylene	U	si accommensarios esta actual de la seri	0.0013	0.0042	mg/Kg-dry	1	21-Nov-2018 19:3
Anthracene	U		0.00064	0.0042	mg/Kg-dry	1	21-Nov-2018 19:3
Benz(a)anthracene	U		0.0020	0.0042	mg/Kg-dry	1	21-Nov-2018 19:3
Benzo(a)pyrene	0.0017	YJQ	0.0013	0.0042	mg/Kg-dry	1	21-Nov-2018 19:3
Benzo(b)fluoranthene	0.0032	火!	0.0015	0.0042	mg/Kg-dry	1	21-Nov-2018 19:3
Benzo(g,h,i)perylene	0.0033	1	0.00089	0.0042	mg/Kg-dry	1	21-Nov-2018 19:3
Benzo(k)fluoranthene	0.0034	لاند	0.0011	0.0042	mg/Kg-dry	1	21-Nov-2018 19:3
Chrysene	U		0.0010	0.0042	mg/Kg-dry	1	21-Nov-2018 19:3
Dibenz(a,h)anthracene	U		0.0020	0.0042	mg/Kg-dry	1	21-Nov-2018 19:3
Fluoranthene	0.0019	4J0	0.0014	0.0042	mg/Kg-dry	1	21-Nov-2018 19:3
Fluorene	U		0.0014	0.0042	mg/Kg-dry	1	21-Nov-2018 19:3
Indeno(1,2,3-cd)pyrene	0.0011	J JQ	0.0010	0.0042	mg/Kg-dry	1	21-Nov-2018 19:3
Naphthalene	U	***************************************	0.00076	0.0042	mg/Kg-dry	1	21-Nov-2018 19:3
Phenanthrene	0.0024	JL (\$Q	0.0019	0.0042	mg/Kg-dry	1	21-Nov-2018 19:3
Pyrene	0.0032	ىل ھ	0.00076	0.0042	mg/Kg-dry	1	21-Nov-2018 19:3
Surr: 2-Fluorobiphenyl	73.9			43-125	%REC	1	21-Nov-2018 19:3
Surr: 4-Terphenyl-d14	109		un en consessence en la deservación en la cilitation en la consessence de la consessence della consess	32-125	%REC	1	21-Nov-2018 19:3
Surr: Nitrobenzene-d5	70.1			37-125	%REC	1	21-Nov-2018 19:3
PCBS BY SW8082A		Method:	SW8082		Prep:SW3541/36	65A / 21-Nov	-2018 Analyst: JB/
Aroclor 1016	U		0.0053	0.021	mg/Kg-dry	1	26-Nov-2018 10:2
Aroclor 1221	U		0.0071	0.021	mg/Kg-dry	1	26-Nov-2018 10:2
Aroclor 1232	U		0.0057	0.021	mg/Kg-dry	1	26-Nov-2018 10:2
Aroclor 1242	U		0.0075	0.021	mg/Kg-dry	1	26-Nov-2018 10:2
Aroclor 1248	U		0.0075	0.021	mg/Kg-dry	1	26-Nov-2018 10:2
Aroclor 1254	U		0.0060	0.021	mg/Kg-dry	1	26-Nov-2018 10:2
Aroclor 1260	29	1K	1.0	4.2	mg/Kg-dry	200	26-Nov-2018 12:5
Surr: Decachlorobiphenyl	0	JS		54-143	%REC	200	26-Nov-2018 12:5
Surr: Decachlorobiphenyl	96.4			54-143	%REC	1	26-Nov-2018 10:2
Surr: Tetrachloro-m-xylene	86.2			50-140	%REC	1	26-Nov-2018 10:2
Surr: Tetrachloro-m-xylene	35.0	JS		50-140	%REC	200	26-Nov-2018 12:5
METALS BY SW6020A		Method:S	SW6020		Prep SW3050A /	21-Nov-2018	Analyst: JC.
Arsenic	10.7		0.0860	0.615	mg/Kg-dry	1	27-Nov-2018 01:3
Cadmium	0.590	<i>≯</i> J8	0.0332	0.615	mg/Kg-dry	1	27-Nov-2018 01:3
Cobalt	22.8		0.0184	0.615	mg/Kg-dry	1	27-Nov-2018 01:3
Iron	21,200		2.25	61.5	mg/Kg-dry	1	27-Nov-2018 01:3
Lead	130		0.160	6.15	mg/Kg-dry	10	30-Nov-2018 18:2
Manganese	2,970		10.6	123	mg/Kg-dry		27-Nov-2018 15:3



**ALS Houston, US** 

Date: 01-Dec-18

Client:

Weston Solutions, Inc.

Project:

FJ Doyle RA/TX

Sample ID:

Collection Date:

FJD03-10NW-20181120-24-56

20-Nov-2018 11:50

**ANALYTICAL REPORT** 

WorkOrder:HS18111105

Lab ID:HS18111105-02

ANALYSES	RESULT QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
MOISTURE - ASTM D2216	Method:AS					Analyst: JHD
Percent Moisture	21.4	0.0100	0.0100	wt%	1	21-Nov-2018 12:03

Weston Solutions, Inc.

Project:

FJ Doyle RA/TX

Sample ID:

FJD06-01-20181120-12-56

Collection Date:

20-Nov-2018 11:45

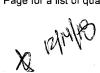
**ANALYTICAL REPORT** 

WorkOrder:HS18111105 Lab ID:HS18111105-03

Matrix:Soil

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL PAHS		Method:	SW8270	79.44 Since 1986	Prep:SW3541 / 2	1-Nov-2018	Analyst: GEY
Acenaphthene	U		0.00065	0.0043	mg/Kg-dry	1	21-Nov-2018 19:52
Acenaphthylene	U		0.0013	0.0043	mg/Kg-dry	1	21-Nov-2018 19:52
Anthracene	U		0.00065	0.0043	mg/Kg-dry	1	21-Nov-2018 19:52
Benz(a)anthracene	U	100000000000000000000000000000000000000	0.0021	0.0043	mg/Kg-dry	1	21-Nov-2018 19:52
Benzo(a)pyrene	U		0.0013	0.0043	mg/Kg-dry	1	21-Nov-2018 19:52
Benzo(b)fluoranthene	0.0017	A 50	0.0016	0.0043	mg/Kg-dry	1	21-Nov-2018 19:52
Benzo(g,h,i)perylene	0.0016	ل لر	0.00091	0.0043	mg/Kg-dry	1	21-Nov-2018 19:52
Benzo(k)fluoranthene	U		0.0012	0.0043	mg/Kg-dry	1	21-Nov-2018 19:52
Chrysene	0.0012	JUK	0.0010	0.0043	mg/Kg-dry	1	21-Nov-2018 19:52
Dibenz(a,h)anthracene	U		0.0021	0.0043	mg/Kg-dry	1	21-Nov-2018 19:52
Fluoranthene	U		0.0014	0.0043	mg/Kg-dry	1	21-Nov-2018 19:52
Fluorene	Ŭ	***************************************	0.0014	0,0043	mg/Kg-dry	1	21-Nov-2018 19:52
indeno(1,2,3-cd)pyrene	0.0013	\$J6	0.0010	0.0043	mg/Kg-dry	1	21-Nov-2018 19:52
Naphthalene	U		0.00078	0.0043	mg/Kg-dry	1	21-Nov-2018 19:52
Phenanthrene	U		0.0020	0.0043	mg/Kg-dry	1	21-Nov-2018 19:52
Pyrene	0.0012	كان لمد	0.00078	0.0043	mg/Kg-dry	1	21-Nov-2018 19:52
Surr: 2-Fluorobiphenyl	66.6			43-125	%REC	1	21-Nov-2018 19:52
Surr: 4-Terphenyl-d14	87.4		.00000, e., per ver 200, vorgeneemen, 2000ggo (m	32-125	%REC	1	21-Nov-2018 19:52
Surr: Nitrobenzene-d5	62.5			37-125	%REC	1	21-Nov-2018 19:52
PCBS BY SW8082A		Method:	SW8082		Prep:SW3541/36	65A / 21-Nov	-2018 Analyst: JBA
Aroclor 1016	U		0.0055	0.022	mg/Kg-dry	1	26-Nov-2018 10:44
Aroclor 1221	U		0.0073	0.022	mg/Kg-dry	1	26-Nov-2018 10:44
Aroclor 1232	U		0.0059	0.022	mg/Kg-dry	1	26-Nov-2018 10:44
Arodor 1242	U		0.0077	0.022	mg/Kg-dry	1	26-Nov-2018 10:44
Aroclor 1248	U		0.0077	0.022	mg/Kg-dry	1	26-Nov-2018 10:44
Aroclor 1254	U		0.0062	0.022	mg/Kg-dry	1	26-Nov-2018 10:44
Aroclor 1260	U		0.0052	0.022	mg/Kg-dry	1	26-Nov-2018 10:44
Surr: Decachlorobiphenyl	85.4			54-143	%REC	1	26-Nov-2018 10:44
Surr: Tetrachloro-m-xylene	95.4			50-140	%REC	1	26-Nov-2018 10:44
METALS BY SW6020A		Method:	SW6020	A AMERICA PHY	Prep:SW3050A /	21-Nov-2018	Analyst: JCJ
Arsenic	5.70		0.0842	0.602	mg/Kg-dry	1	27-Nov-2018 01:40
Cadmium	0.515	+50	0.0325	0.602	mg/Kg-dry	1	27-Nov-2018 01:40
Cobalt	12.3		0.0180	0.602	mg/Kg-dry	1	27-Nov-2018 01:40
lron (	19,600		2.20	60.2	mg/Kg-dry	1	27-Nov-2018 01:40
Lead	34.1		0.156	6.02	mg/Kg-dry	10	30-Nov-2018 18:29
Manganese	1,710	*****	5.17	60.2	mg/Kg-dry	100	27-Nov-2018 15:40
MOISTURE - ASTM D2216	N	lethod:A	STM D2216		1975.170	33.7 (15)	Analyst: JHD
Percent Moisture	23.7		0.0100	0.0100	wt%	1	21-Nov-2018 12:03

Note: See Qualifiers Page for a list of qualifiers and their explanation.



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# DATA QUALITY ASSURANCE REVIEW

SITE NAME	Frank J. Doy	Poyle Salvage Removal Action					
WORK ORDER NUMBER PROJECT NUMBER		20600.012.001.1175.01	TDD NUMBER	Q 0001/18-175			
			SDG NUMBER	HS18111414			
	.01; SDG No.	HS18111414; Frank J. D	oyle Salvage Rer	w for Work Order Numbe moval Action. Nine samples were mental. Sample numbers are listed			
		SAMPLE NUM	BERS				
FJD02-06-20181128-12-56		FJD02-10S-20181128-	18-56 F	FJD03-03-20181128-12-56			
FJD03-05-20181128-12-56		FJD03-07-20181128-1	2-56 F	FJD03-07-20181128-12-57			
FJD03-09NSEW-20181128-12-56		FJD03-10NW-2018112	28-30-56 F	FJD07-01-20181128-12-56			
		-					
USEPA National Functional National Functional Laboratory Program (April, 2016), Qualithe Regional Protocqualifications are list	nctional Guide I Guidelines f In National Fu ty Assurance/Q tol for Holdin ted in the follo	elines for Organic Superful for Inorganic Superfund inctional Guidelines for I Quality Control Guidance g Times, Blanks, and V wing discussion.	nd Methods Data Data Review (Ja High Resolution of for Removal Act OA Preservation	fications were achieved, following a Review (January, 2017), USEPA anuary, 2017), USEPA Contract Superfund Methods Data Review tivities (September, 2011), and/o (April 13, 1989). Specific data			
REVIEWER	Gloria J. Swit	talski	DATE	December 14, 2018			

## **Data Qualifiers**

Data Qualifier Definitions were supplied by the Office of Solid Waste and Emergency Response (September 1989) and are included in the Functional Guidelines. Data qualifiers may be combined (UJ, QJ) with the corresponding combination of meanings. Additional qualifiers may be added to provide additional, more specific information (JL, UB, QJK), modifying the meaning of the primary qualifier. Additional qualifiers utilized by WESTON are H, L, K, B, and Q.

U - The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation or detection limit, which has been adjusted for sample weight/sample volume, extraction volume, percent solids, sample dilution or other analysis specific parameters.

An additional qualifier, "B", may be appended to indicate that while the analyte was detected in the sample, the presence of the analyte may be attributable to blank contamination and the analyte is therefore considered undetected with the sample detection or quantitation limit for the analyte being elevated.

J - The analyte was analyzed for, but the associated numerical value may not be consistent with the amount actually present in the environmental sample or may not be consistent with the sample detection or quantitation limit. The value is an estimated quantity. The data should be seriously considered for decision-making and are usable for many purposes.

An additional qualifier will be appended to the "J" qualifier that indicates the bias in the reported results:

- L Low bias
- H High bias
- K Unknown bias
- Q The reported concentration is less than the sample quantitation limit for the specific analyte in the sample.

The L and H qualifier will only be employed when a single qualification is required. When more than one quality control parameter affects the analytical result and a conflict results in assigning a bias, the result will be flagged JK.

- R Quality Control indicates that data are unusable for all purposes. The analyte was analyzed for, but the presence or absence of the analyte has not been verified. Resampling and reanalysis are necessary for verification to confirm or deny the presence of an analyte.
- N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

#### PCB FRACTION EVALUATION

# 1. Analytical Method:

Samples were prepared and analyzed for PCBs using the procedures specified in SW-846 Method 8082A.

## 2. Holding Time:

The samples were received within the recommended  $\leq$ 6°C NFG limit. All samples were extracted within the required holding time of less than 1 year after collection. Analysis of the samples was conducted within 40 days of extraction. No qualifications are placed on the data.

## 3. Initial Calibration:

The correlation coefficient of the multipoint initial calibration was greater than or equal to 0.995 or the percent relative standard deviation (%RSD) was less than or equal to 20%. No qualifications are placed on the data.

## 4. Continuing Calibration:

The continuing calibration check was analyzed at the required frequency and met recovery requirements of 75%-125% [percent difference (%D) was less than 25%]. No qualifications are placed on the data.

#### 5. Blanks:

#### A. Laboratory Blanks:

A method blank was prepared at the required frequency of every time samples were extracted for each matrix and concentration or every 20 samples whichever is greater. No target analytes were detected in the method blanks at concentrations that warrant blank action. No qualifications are placed on the data.

## B. Field Blanks:

No field blank samples were submitted with this analytical package. No qualifications are placed on the data.

#### 6. Surrogates:

All recoveries of the surrogates were within the control limits provided or were diluted out. No qualifications are placed on the data.

# 7. Matrix Spikes/Matrix Spike Duplicates (MS/MSD):

Sample FJD03-10NW-20181128-30-56 underwent MS/MSD analysis for the solid matrix. Recoveries of all spiked analytes were within the control limits provided. No qualifications are placed on the data.

## 8. Duplicates:

# A. Laboratory Duplicate Analysis:

Sample FJD03-10NW-20181128-30-56 underwent MS/MSD analysis for the solid matrix. QC criteria are that the relative percent difference (RPD) values for the duplicate sample analysis are less than 20% for aqueous samples and less than 35% for solid samples. All QC criteria were met. No qualifications are placed on the data.

# B. Field Duplicate Analysis:

The following sample pair was submitted as field duplicates for the solid matrix: FJD03-07-20181128-12-56/FJD03-07-20181128-12-57. QC criteria are that the RPD values for the field duplicate sample analysis be less than 30% for aqueous samples and less than 50% for solid samples for concentrations greater than five times the reporting limit (RL). For sample concentrations less than five times the RL, the QC criteria are that the absolute difference between the samples is less than two times the RL for aqueous samples or less than 3.5 times the RL for the solid matrix. All QC criteria were met. No qualifications are placed on the data.

## 9. Laboratory Control Sample (LCS):

The laboratory analyzed an LCS and recoveries were within the control limits provided. No qualifications are placed on the data.

# 10. Target Compound Identification, Quantitation, and Reporting Limits:

Concentrations of all reported compounds were correctly calculated.

The %D between the column results were within the acceptance limits (≤25). No qualifications are placed on the data.

## 11. Laboratory Contact:

No laboratory contact was required.

#### 12. Overall Assessment:

The analytical data is acceptable for use without qualification.

# DATA QUALITY ASSURANCE REVIEW

SITE NAME Frank J. Doyl	e Salvage Removal Action	1	
WORK ORDER NUMBER	20600.012.001.1175.01	TDD NUMBER	0001/18-175
PROJECT NUMBER		SDG NUMBER	HS18111414
Weston Solutions, Inc. (WEST 20600.012.001.1175.01; SDG No. analyzed for Polynuclear Aromatic below.	HS18111414; Frank J. Do	yle Salvage Remov	
	SAMPLE NUMI	BERS	
FJD02-06-20181128-12-56	FJD02-10S-20181128-1	.8-56 FJD0	03-03-20181128-12-56
FJD03-05-20181128-12-56	FJD03-07-20181128-12	-56 FJD0	03-07-20181128-12-57
FJD03-09NSEW-20181128-12-56	FJD03-10NW-2018112	8-30-56 FJD0	07-01-20181128-12-56
_			
This data package was validated to USEPA National Functional Guide National Functional Guidelines for Laboratory Program National Functional Fu	lines for Organic Superfu or Inorganic Superfund I actional Guidelines for H	nd Methods Data Ro Data Review (Janu ligh Resolution Sup	eview (January, 2017), USEPA lary, 2017), USEPA Contract perfund Methods Data Review
(April, 2016), <i>Quality Assurance/Q</i> the Regional Protocol for Holding qualifications are listed in the follow	g Times, Blanks, and VO		
PEVIEWED Gloria I Swit	aleki	DATE	December 14, 2018

### **Data Qualifiers**

Data Qualifier Definitions were supplied by the Office of Solid Waste and Emergency Response (September 1989) and are included in the Functional Guidelines. Data qualifiers may be combined (UJ, QJ) with the corresponding combination of meanings. Additional qualifiers may be added to provide additional, more specific information (JL, UB, QJK), modifying the meaning of the primary qualifier. Additional qualifiers utilized by WESTON are H, L, K, B, and Q.

U - The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation or detection limit, which has been adjusted for sample weight/sample volume, extraction volume, percent solids, sample dilution or other analysis specific parameters.

An additional qualifier, "B", may be appended to indicate that while the analyte was detected in the sample, the presence of the analyte may be attributable to blank contamination and the analyte is therefore considered undetected with the sample detection or quantitation limit for the analyte being elevated.

J - The analyte was analyzed for, but the associated numerical value may not be consistent with the amount actually present in the environmental sample or may not be consistent with the sample detection or quantitation limit. The value is an estimated quantity. The data should be seriously considered for decision-making and are usable for many purposes.

An additional qualifier will be appended to the "J" qualifier that indicates the bias in the reported results:

- L Low bias
- H High bias
- K Unknown bias
- Q The reported concentration is less than the sample quantitation limit for the specific analyte in the sample.

The L and H qualifier will only be employed when a single qualification is required. When more than one quality control parameter affects the analytical result and a conflict results in assigning a bias, the result will be flagged JK.

- R Quality Control indicates that data are unusable for all purposes. The analyte was analyzed for, but the presence or absence of the analyte has not been verified. Resampling and reanalysis are necessary for verification to confirm or deny the presence of an analyte.
- N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

#### PAH FRACTION EVALUATION

# 1. Analytical Method:

Samples were prepared and analyzed using the procedures specified in **SW-846 Method 8270D selective ion monitoring (SIM).** 

# 2. Holding Time:

The samples were received within the recommended  $\leq$ 6°C NFG limit. All samples were extracted within the required holding time of less than 7 days for waters and less than 14 days for solids/wastes after collection. Analysis of the samples was conducted within 40 days of extraction. No qualifications are placed on the data.

# 3. Tuning/Performance:

DFTPP tuning of the mass spectrometer(s) was conducted at the required frequency and results were within the required criteria. No qualifications are placed on the data.

#### 4. Initial Calibration:

All individual relative response factors (RRFs) and average RRFs for the initial calibration (IC) were greater than the compound dependent (see Table 34 of National Functional Guidelines) control limits. All percent relative standard deviations (%RSDs) were less than the compound dependent (see Table 34 of National Functional Guidelines) control limits or the correlation coefficient was > 0.990. No qualifications are placed on the data.

# 5. Continuing Calibration:

All individual RRFs for the initial calibration verification (ICV) and continuing calibration (CC) standards were greater than the compound dependent (see Table 34 of National Functional Guidelines) control limits. All percent differences (%Ds) were less than the compound dependent (see Table 34 of National Functional Guidelines) control limits. No qualifications are placed on the data.

#### 6. Blanks:

# A. Laboratory Blanks:

A method blank was prepared at the required frequency of every time samples were extracted for each matrix and concentration or every 20 samples whichever is greater. Target analytes were not detected in the method at concentrations that warrant blank action. No qualifications are placed on the data.

#### B Field Blanks:

No field blank samples were submitted with this analytical package. No qualifications are placed on the data.

## 7. System Monitoring Compounds (SMC):

All recoveries of the system monitoring compounds (surrogates) were within the control limits provided. No qualifications are placed on the data.

## 8. Duplicates:

# A. Laboratory Duplicate Analysis:

Sample FJD03-10NW-20181128-30-56 underwent matrix spike/matrix spike duplicate (MS/MSD) analysis for the solid matrix. QC criteria are that the relative percent difference (RPD) values for the duplicate sample analysis are less than 20% for aqueous samples and less than 35% for solid samples. All QC criteria were met. No qualifications are placed on the data.

# B. Field Duplicate Analysis:

The following sample pair was submitted as field duplicates for the solid matrix: FJD03-07-20181128-12-56/FJD03-07-20181128-12-57. QC criteria are that the RPD values for the field duplicate sample analysis be less than 30% for aqueous samples and less than 50% for solid samples for concentrations greater than five times the reporting limit (RL). For sample concentrations less than five times the RL, the QC criteria are that the absolute difference between the samples is less than two times the RL for aqueous samples or less than 3.5 times the RL for the solid matrix. All QC criteria were met with the following exception:

FIELD DUPLICATE SAMPLE PAIR	ANALYTE	MATRIX	RPD	AFFECTED SAMPLES	QUALIFIER FLAG
FJD03-07-20181128-12-56/ FJD03-07-20181128-12-57	Phenanthrene	Solid	*	FJD03-07-20181128-12-56/ FJD03-07-20181128-12-57	JK/UJK

<sup>\*</sup>One result ND and one result >5x RL

## 9. Matrix Spike/Matrix Spike Duplicate:

Sample FJD03-10NW-20181128-30-56 underwent MS/MSD analysis for the solid matrix. Recoveries of all spiked analytes were within the control limits provided in both the matrix spike and matrix spike duplicate. No qualifications are placed on the data.

## 10. Internal Standards:

Areas of the six internal standards were within the control limits of a factor of 2 (-50% to +100%) and retention times were within 30 seconds from the associated 12 hour calibration standard. No qualifications are placed on the data.

# 11. Laboratory Control Sample (LCS):

The laboratory analyzed an LCS and recoveries were within the control limits provided. No qualifications are placed on the data.

## 12. Target Compound Identification:

All target compounds reported by the laboratory met identification criteria of relative retention times (RRT) within 0.06 RRT units of the 12 hour standard and that all ions present in the standard mass spectrum were present in the sample mass spectrum and the abundance of these ions agreed within  $\pm$  20% of the standard. No qualifications are placed on the data.

# 13. Target Compound Quantitation and Reporting Limits:

Concentrations of all reported compounds were correctly calculated.

Reported concentrations less than the RL qualified "J" by the laboratory are qualified "JQ" to indicate that the result is less than the RL but greater than the method detection limit (MDL).

One sample was analyzed at a dilution for some compounds. The RL for these compounds in this sample were elevated as a result of the dilutions performed.

# 14. Laboratory Contact:

No laboratory contact was required.

#### 15. Overall Assessment

The phenanthrene result in the field duplicate pair was estimated due to poor precision.

Reported concentrations less than the RL qualified "J" by the laboratory were qualified "JQ" to indicate that the result is less than the RL but greater than the MDL.

The analytical data is acceptable for use with the qualifications listed above.

# DATA QUALITY ASSURANCE REVIEW

SITE NAME Frank J. Doyle Salvage Removal Action

WORK ORDER NUMBER	20600.012.001.1175.01	TDD NUMBER	0001/18-175
PROJECT NUMBER		SDG NUMBER	HS18111414
Weston Solutions, Inc. (WES' 20600.012.001.1175.01; SDG No. analyzed for metals (As, Cd, Co, Fe	HS18111414; Frank J. D	oyle Salvage Remo	
	SAMPLE NUM	BERS	
FJD02-06-20181128-12-56	FJD02-10S-20181128-	18-56 FJE	003-03-20181128-12-56
FJD03-05-20181128-12-56	FJD03-07-20181128-1	2-56 FJE	003-07-20181128-12-57
FJD03-09NSEW-20181128-12-56	FJD03-10NW-2018112	28-30-56 FJE	007-01-20181128-12-56
	· -		
	-		
This data package was validated to USEPA National Functional Guide National Functional Guidelines for	elines for Organic Superfu	nd Methods Data I	Review (January, 2017), USEPA
Laboratory Program National Full (April, 2016), Quality Assurance/Q the Regional Protocol for Holding qualifications are listed in the follow	nctional Guidelines for F Quality Control Guidance g Times, Blanks, and V	High Resolution Su for Removal Activ	perfund Methods Data Review vities (September, 2011), and/or
REVIEWER Gloria J. Swit	alski	DATE	December 26, 2018

# **Data Qualifiers**

Data Qualifier Definitions were supplied by the Office of Solid Waste and Emergency Response (September 1989) and are included in the Functional Guidelines. Data qualifiers may be combined (UJ, QJ) with the corresponding combination of meanings. Additional qualifiers may be added to provide additional, more specific information (JL, UB, QJK), modifying the meaning of the primary qualifier. Additional qualifiers utilized by WESTON are H, L, K, B, and Q.

U - The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation or detection limit, which has been adjusted for sample weight/sample volume, extraction volume, percent solids, sample dilution or other analysis specific parameters.

An additional qualifier, "B", may be appended to indicate that while the analyte was detected in the sample, the presence of the analyte may be attributable to blank contamination and the analyte is therefore considered undetected with the sample detection or quantitation limit for the analyte being elevated.

J - The analyte was analyzed for, but the associated numerical value may not be consistent with the amount actually present in the environmental sample or may not be consistent with the sample detection or quantitation limit. The value is an estimated quantity. The data should be seriously considered for decision-making and are usable for many purposes.

An additional qualifier will be appended to the "J" qualifier that indicates the bias in the reported results:

- L Low bias
- H High bias
- K Unknown bias
- Q The reported concentration is less than the sample quantitation limit for the specific analyte in the sample.

The L and H qualifier will only be employed when a single qualification is required. When more than one quality control parameter affects the analytical result and a conflict results in assigning a bias, the result will be flagged JK.

- R Quality Control indicates that data are unusable for all purposes. The analyte was analyzed for, but the presence or absence of the analyte has not been verified. Resampling and reanalysis are necessary for verification to confirm or deny the presence of an analyte.
- N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

#### METALS DATA EVALUATION

### 1. Analytical Method:

Samples were prepared and analyzed for ICP metals using the procedures specified in SW-846 Method 6020A.

# 2. Holding Times:

All samples met established holding time criteria of 180 days for ICP metals. No qualifications are placed on the data.

#### 3. Initial Calibration:

ICP initial calibration included a blank and five standards and initial calibration verification results fell within the control limits of 90% to 110% of the true values. No qualifications are placed on the data.

# 4. Continuing Calibration:

All ICP results fell within the control limits of 90% to 110% of the true values. No qualifications are placed on the data.

#### 5. CRDL Standard:

All results for the CRDL standard were within the control limits of 70% to 130% of the true values or the sample results were greater than the CRDL action level. No qualifications are placed on the data.

### 6. Blanks:

#### A. Laboratory Blanks:

A method blank was prepared at the required frequency of every time samples were prepared/digested for each matrix or every 20 samples whichever is greater. Target analytes were not detected in the method and calibration blanks at concentrations that warrant blank action. No qualifications are placed on the data.

#### B. Field Blanks:

No field blank samples were submitted with this analytical package. No qualifications are placed on the data.

### 7. ICP Interference Check:

All results for the interference check sample were within the control limits of 80% to 120% of the true values. No qualifications are placed on the data.

#### 8. Laboratory Control Sample (LCS):

The recoveries for the LCS were within the control limits provided. No qualifications are placed on the data.

# 9. Duplicate Sample Analysis:

# A. Laboratory Duplicate Analysis:

Sample FJD03-10NW-20181128-30-56 underwent matrix spike/matrix spike duplicate (MS/MSD) analysis for ICP metals for the solid matrix. QC criteria are that the RPD values for the duplicate sample analysis are less than 20% for aqueous samples and less than 35% for solid samples. All QC criteria were met. No qualifications are placed on the data.

# B. Field Duplicate Analysis:

The following sample pair was submitted as field duplicates for the solid matrix: FJD03-07-20181128-12-56/FJD03-07-20181128-12-57. QC criteria are that the RPD values for the field duplicate sample analysis be less than 30% for aqueous samples and less than 50% for solid samples for concentrations greater than five times the reporting limit (RL). For sample concentrations less than five times the RL, the QC criteria are that the absolute difference between the samples is less than two times the RL for aqueous samples or less than 3.5 times the RL for the solid matrix. All QC criteria were met with the following exception:

FIELD DUPLICATE SAMPLE PAIR	ANALYTE	MATRIX	RPD	AFFECTED SAMPLES	QUALIFIER FLAG
FJD03-07-20181128-12-56/ FJD03-07-20181128-12-57	Iron	Solid	114	FJD03-07-20181128-12-56/ FJD03-07-20181128-12-57	JK

# 10. Spiked Sample Analysis:

Sample FJD03-10NW-20181128-30-56 underwent MS/MSD analysis for ICP metals for the solid matrix. The spike recoveries for the following analytes were outside of the 75%-125% QC recovery limits for analytes whose sample concentration did not exceed the spike concentration by a factor of 4 times or more:

ANALYTE	MATRIX	%R/%R	AFFECTED SAMPLES	QUALIFIER FLAG	
Cobalt	Solid	70.1/OK	All	JL	

The post digestion spike recoveries were acceptable. No further qualifications are placed on the data.

### 11. ICP Serial Dilution:

Sample FJD03-10NW-20181128-30-56 underwent serial dilution for the solid matrix for ICP metals. The percent difference (%D) values for serial dilution analysis were within the QC limits of 10% for all analytes whose concentrations were greater than 50 times their method detection limit (MDL). No qualifications are placed on the data.

# 12. Sample Quantitation and Reporting Limits:

Concentrations of all reported analytes were correctly calculated.

Reported concentrations less than the RL qualified "J" by the laboratory are qualified "JQ" to indicate that the result is less than the RL but greater than the MDL.

Some ICP metals analytes in some samples were analyzed at a 5 or 100-fold dilution. Reporting limits for these analytes in these samples were elevated as a result of the dilutions performed.

# 13. Laboratory Contact

The laboratory was contacted on December 13, 2018 regarding the lack of a sequence log, prep page, and raw data. An acceptable response was received on December 21, 2018.

#### 14. Overall Assessment:

The cobalt result in all samples was qualified due to low MS recovery.

The iron result in the field duplicate pair was estimated due to poor precision.

Reported concentrations less than the RL qualified "J" by the laboratory were qualified "JQ" to indicate that the result is less than the RL but greater than the MDL.

The analytical data is acceptable for use with the qualifications listed above.

Client:

Weston Solutions, Inc.

Project:

FJ Doyle RA/TX

Sample ID:

FJD02-06-20181128-12-56

Collection Date:

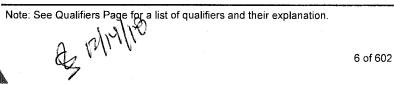
28-Nov-2018 12:55

**ANALYTICAL REPORT** 

WorkOrder:HS18111414 Lab ID:HS18111414-01

Matrix:Soil

Collection Date:	28-NOV-2018 1	2:55	•	•	Matrix: Soil			
ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED	
LOW-LEVEL PAHS		Method:S	W8270		Prep.SW3541 / 2	9-Nov-2018	Analyst: GEY	
Acenaphthene	U		0.00062	0.0041	mg/Kg-dry	1	29-Nov-2018 20:38	
Acenaphthylene	U	where $x$ are a constitution of the constitution $(\phi_{x}, \phi, x, y)$	0.0012	0.0041	mg/Kg-dry	1	29-Nov-2018 20:38	
Anthracene	0.0046		0.00062	0.0041	mg/Kg-dry	1	29-Nov-2018 20:38	
Benz(a)anthracene	0.0087		0.0020	0,0041	mg/Kg-dry	1	29-Nov-2018 20:38	
Benzo(a)pyrene	0.0054		0.0012	0.0041	mg/Kg-dry	1	29-Nov-2018 20:38	
Benzo(b)fluoranthene	0.011	**************************************	0.0015	0.0041	mg/Kg-dry	1	29-Nov-2018 20:38	
Benzo(g,h,i)perylene	0.013		0.00086	0.0041	mg/Kg-dry	1	29-Nov-2018 20:38	
Benzo(k)fluoranthene	0.0046		0.0011	0.0041	mg/Kg-dry	1	29-Nov-2018 20:38	
Chrysene	0.011		0.00098	0.0041	mg/Kg-dry	1	29-Nov-2018 20:38	
Dibenz(a,h)anthracene	U	***************************************	0.0020	0,0041	mg/Kg-dry	1	29-Nov-2018 20:38	
Fluoranthene	0.0066		0.0014	0.0041	mg/Kg-dry	1	29-Nov-2018 20:38	
Fluorene	U		0.0014	0.0041	mg/Kg-dry	1	29-Nov-2018 20:38	
Indeno(1,2,3-cd)pyrene	0.0061		0.00098	0.0041	mg/Kg-dry	1	29-Nov-2018 20:38	
Naphthalene	0.026		0.00074	0.0041	mg/Kg-dry	1	29-Nov-2018 20:38	
Phenanthrene	0.014		0.0018	0.0041	mg/Kg-dry	1	29-Nov-2018 20:38	
Pyrene	0.016		0.00074	0.0041	mg/Kg-dry	1	29-Nov-2018 20:38	
Surr: 2-Fluorobiphenyl	74.6			43-125	%REC	1	29-Nov-2018 20:38	
Surr: 4-Terphenyl-d14	98.9	***	**** *** *** *** *** *** *** *** *** *	32-125	%REC	1	29-Nov-2018 20:38	
Surr: Nitrobenzene-d5	76.2			37-125	%REC	1	29-Nov-2018 20:38	
PCBS BY SW8082A		Method:S	W8082		Prep:SW3541/36	65A / 29-Nov	-2018 Analyst: JLJ	
Aroclor 1016	U		0.0052	0.021	mg/Kg-dry	1	29-Nov-2018 23:42	
Aroclor 1221	U		0.0069	0.021	mg/Kg-dry	1	29-Nov-2018 23:42	
Aroclor 1232	U		0.0055	0.021	mg/Kg-dry	1	29-Nov-2018 23:42	
Aroclor 1242	· · U		0.0073	0.021	mg/Kg-dry	1 .	29-Nov-2018 23:42	
Aroclor 1248	, U		0.0073	0.021	mg/Kg-dry	1	29-Nov-2018 23:42	
Aroclor 1254	U		0.0058	0.021	mg/Kg-dry	1	29-Nov-2018 23:42	
Aroclor 1260	U		0.0049	0.021	mg/Kg-dry	1	29-Nov-2018 23:42	
Surr: Decachlorobiphenyl	132			54-143	%REC	1	29-Nov-2018 23:42	
Surr: Tetrachloro-m-xylene	107			50-140	%REC	1	29-Nov-2018 23:42	
METALS BY SW6020A		Method:S	W6020	Salah Carl Constitution (S. L.)	Prep:SW3050A /	29-Nov-2018	Analyst: JCJ	
Arsenic	44.9		0.398	2.84	mg/Kg-dry	5	30-Nov-2018 14:52	
Cadmium	0.804	PE to	0.153	2.84	mg/Kg-dry	5	30-Nov-2018 14:52	
Cobalt	12.2	ゴレ	0.0853	2.84	mg/Kg-dry	5	30-Nov-2018 14:52	
Iron	21,300	PMg - 1000 of Statistics and about his baseling	10.4	284	mg/Kg-dry	5	30-Nov-2018 14:52	
Lead	17.8		0.0739	2.84	mg/Kg-dry	5	30-Nov-2018 14:52	
Manganese	1,900		4.89	56.8	mg/Kg-dry	100	30-Nov-2018 14:55	
MOISTURE - ASTM D2216	N	lethod:AST	TM D2216				Analyst: DFF	
Percent Moisture	19.0	X 1.20 TO THE TOTAL POPULATION OF THE PARTY	0.0100	0,0100	wt%	1	29-Nov-2018 11:30	



Client:

Weston Solutions, Inc.

ANALYTICAL REPORT

Project:

FJ Doyle RA/TX

Sample ID:

FJD02-10S-20181128-18-56

Collection Date:

28-Nov-2018 12:48

WorkOrder:HS18111414 Lab ID:HS18111414-02

Matrix:Soil

ANALYSES	RESULT	QUAL MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL PAHS		Method:SW8270		Prep:SW3541 / 2	29-Nov-2018	Analyst: GEY
Acenaphthene	U	0.00060	0.0040	mg/Kg-dry	1	29-Nov-2018 16:53
Acenaphthylene	0.083	0.0012	0.0040	mg/Kg-dry	1	29-Nov-2018 16:53
Anthracene	U	0.00060	0.0040	mg/Kg-dry	1	29-Nov-2018 16:53
Benz(a)anthracene	0.013	0.0019	0.0040	mg/Kg-dry	1	29-Nov-2018 16:53
Benzo(a)pyrene	0.014	0.0012	0.0040	mg/Kg-dry	1	29-Nov-2018 16:53
Benzo(b)fluoranthene	0.018	0.0014	0.0040	mg/Kg-dry	1	29-Nov-2018 16:53
Benzo(g,h,i)perylene	0.017	0.00084	0.0040	mg/Kg-dry	1	29-Nov-2018 16:53
Benzo(k)fluoranthene	0.0044	0.0011	0.0040	mg/Kg-dry	1	29-Nov-2018 16:53
Chrysene	0.031	0.00096	0.0040	mg/Kg-dry	1	29-Nov-2018 16:53
Dibenz(a,h)anthracene	0.0041	0.0019	0.0040	mg/Kg-dry	1	29-Nov-2018 16:53
Fluoranthene	0.040	0.0013	0.0040	mg/Kg-dry	1	29-Nov-2018 16:53
Fluorene	0.29	0.0013	0.0040	mg/Kg-dry	1	29-Nov-2018 16:53
Indeno(1,2,3-cd)pyrene	0.015	0.00096	0.0040	mg/Kg-dry	1	29-Nov-2018 16:53
Naphthalene	3.9	0.0072	0.040	mç/Kg-dry	10	30-Nov-2018 14:45
Phenanthrene	0.42	0.018	0.040	mg/Kg-dry	10	30-Nov-2018 14:45
Pyrene	0.044	0.00072	0.0040	mg/Kg-dry	1	29-Nov-2018 16:53
Surr: 2-Fluorobiphenyl	68.9		43-125	%REC	10	30-Nov-2018 14:45
Surr: 2-Fluorobiphenyl	61.5	***************************************	43-125	%REC	1	29-Nov-2018 16:53
Surr: 4-Terphenyl-d14	101		32-125	%REC	1	29-Nov-2018 16:53
Surr: 4-Terphenyl-d14	85.9	kyrmaganiterakusikhilyin kiristirisik kilokusikin dangan akti mathilitary, yynyystystyssystyt kiristyt konstantu sand	32-125	%REC	10	30-Nov-2018 14:45
Surr: Nitrobenzene-d5	94.8		37-125	%REC	10	30-Nov-2018 14:45
Surr: Nitrobenzene-d5	78.8	From 1 obtaining removal control of about 2004 To 2004 according to the obtained in Article 2004	37-125	%REC	1	29-Nov-2018 16:53
PCBS BY SW8082A		Method:SW8082		Prep:SW3541/36	65A / 29-Nov	/-2018 Analyst JLJ
Aroclor 1016	U	0.0050	0.020	mg/Kg-dry	1	29-Nov-2018 23:57
Aroclor 1221	U	0.0067	0.020	mg/Kg-dry	1	29-Nov-2018 23:57
Aroclor 1232	U	0.0054	0.020	mg/Kg-dry	1	29-Nov-2018 23:57
Aroclor 1242	U	0.0071	0.020	mg/Kg-dry	1	29-Nov-2018 23:57
Aroclor 1248	U	0.0071	0.020	mg/Kg-dry	1	29-Nov-2018 23:57
Aroclor 1254	U	0.0056	0.020	mg/Kg-dry	1	29-Nov-2018 23:57
Aroclor 1260	U	0.0048	0.020	mg/Kg-dry	1	29-Nov-2018 23:57
Surr: Decachlorobiphenyl	130	6-46 V - 40 V -	54-143	%REC	1	29-Nov-2018 23:57
Surr: Tetrachloro-m-xylene	110		50-140	%REC	1	29-Nov-2018 23:57
METALS BY SW6020A		Method:SW6020		Prep:SW3050A	29-Nov-2018	Analyst: JCJ
Arsenic	9.31	0.403	2.88	mg/Kg-dry		30-Nov-2018 14:54
Cadmium	0.683	JJQ 0.155	2.88	mg/Kg-dry		30-Nov-2018 14:54
Cobalt	12.2	JL 0.0863	2.88	mg/Kg-dry		30-Nov-2018 14:54
Iron	18,000	10.5	288	mg/Kg-dry		30-Nov-2018 14:54
Lead	15.8	0.0748	2.88	mg/Kg-dry		30-Nov-2018 14:54
Manganese	1,450	4.95	57.5	mg/Kg-dry		30-Nov-2018 14:58

Note: See Qualifiers Page for a list of qualifiers and their explanation.



**ALS Houston, US** 

Date: 30-Nov-18

Client:

Weston Solutions, Inc.

Project:

FJ Doyle RA/TX

Sample ID: Collection Date: FJD02-10S-20181128-18-56

28-Nov-2018 12:48

**ANALYTICAL REPORT** 

WorkOrder:HS18111414

Lab ID:HS18111414-02

Matrix:Soil

ANALYSES	RESULT QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
MOISTURE - ASTM D2216 Percent Moisture	Method:AS 17.0	0.0100	0.0100	wt%	1	Analyst: DFF 29-Nov-2018 11:30

Client: Project: Weston Solutions, Inc.

FJ Doyle RA/TX

Sample ID:

FJD03-03-20181128-12-56

Collection Date:

28-Nov-2018 12:44

**ANALYTICAL REPORT** 

WorkOrder:HS18111414 Lab ID:HS18111414-03

Matrix:Soil

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL PAHS		Method:	SW8270		Prep SW3541 / 2	9-Nov-2018	Analyst: GEY
Acenaphthene	U	220 7 21 100 22 20 20 20 20 20 20 20 20 20 20 20 2	0.00064	0.0042	mg/Kg-dry	1	30-Nov-2018 15:05
Acenaphthylene	U		0.0013	0.0042	mg/Kg-dry	1	30-Nov-2018 15.05
Anthracene	U		0.00064	0.0042	mg/Kg-dry	1	30-Nov-2018 15:05
Benz(a)anthracene	0.0046		0.0021	0.0042	mg/Kg-dry	1	30-Nov-2018 15:05
Benzo(a)pyrene	0.0050		0.0013	0.0042	mg/Kg-dry	1	30-Nov-2018 15:05
Benzo(b)fluoranthene	0.011		0.0015	0.0042	mg/Kg-dry	1	30-Nov-2018 15:05
Benzo(g,h,i)perylene	0.0080		0.00090	0.0042	mg/Kg-dry	1	30-Nov-2018 15:05
Benzo(k)fluoranthene	0.0038	¥20	0.0012	0.0042	mg/Kg-dry	1	30-Nov-2018 15:05
Chrysene	0.0051		0.0010	0.0042	mg/Kg-dry	1	30-Nov-2018 15:05
Dibenz(a,h)anthracene	0.0028	1月	0.0021	0.0042	mg/Kg-dry	1	30-Nov-2018 15:05
Fluoranthene	0.0045		0.0014	0.0042	mg/Kg-dry	1	30-Nov-2018 15:05
Fluorene	U	************************	0.0014	0.0042	mg/Kg-dry	1	30-Nov-2018 15:05
Indeno(1,2,3-cd)pyrene	0.0043		0.0010	0.0042	mg/Kg-dry	1	30-Nov-2018 15:05
Naphthalene	0.0011	A کار	0.00077	0.0042	mg/Kg-dry	1	30-Nov-2018 15:05
Phenanthrene	0.0025	r U	0.0019	0.0042	mg/Kg-dry	1	30-Nov-2018 15:05
Pyrene	0.0059	***************************************	0.00077	0.0042	mg/Kg-dry	1	30-Nov-2018 15:05
Surr: 2-Fluorobiphenyl	73.1			43-125	%REC	1	30-Nov-2018 15:05
Surr: 4-Terphenyl-d14	73.2		· · · · · · · · · · · · · · · · · · ·	32-125	%REC	1	30-Nov-2018 15:05
Surr: Nitrobenzene-d5	71.5			37-125	%REC	1	30-Nov-2018 15:05
PCBS BY SW8082A		Method:	SW8082		Prep:SW3541/36	65A / 29-Nov	-2018 Analyst: JLJ
Aroclor 1016	U		0.0054	0.021	mg/Kg-dry	1	30-Nov-2018 00:13
Aroclor 1221	U	***************************************	0.0072	0.021	mg/Kg-dry	1	30-Nov-2018 00:13
Aroclor 1232	Ü		0.0058	0.021	mg/Kg-dry	1	30-Nov-2018 00:13
Aroclor 1242	U		0.0076	0.021	mg/Kg-dry	1	30-Nov-2018 00:13
Aroclor 1248	U		0.0076	0.021	mg/Kg-dry	1	30-Nov-2018 00:13
Aroclor 1254	U	Colonia de Constante de Constan	0.0060	0.021	mg/Kg-dry	1	30-Nov-2018 00:13
Aroclor 1260	U		0.0051	0.021	mg/Kg-dry	1	30-Nov-2018 00:13
Surr: Decachlorobiphenyl	136		***************************************	54-143	%REC	1	30-Nov-2018 00:13
Surr: Tetrachloro-m-xylene	106			50-140	%REC	1	30-Nov-2018 00:13
METALS BY SW6020A		Method:	SW6020		Prep:SW3050A7	29-Nov-2018	Analyst: JCJ
Arsenic	11.3		0.429	3.06	mg/Kg-dry	5	30-Nov-2018 14:56
Cadmium	0.860	すび	<b>5</b> 0.165	3.06	mg/Kg-dry	5	30-Nov-2018 14:56
Cobalt	15.3	ゴレ	0.0919	3.06	mg/Kg-dry	5	30-Nov-2018 14:56
iron	26,400		11.2	306	mg/Kg-dry	5	30-Nov-2018 14:56
Lead	27.1		0.0797	3.06	mg/Kg-dry	5	30-Nov-2018 14:56
Manganese	2,020		5.27	61.3	mg/Kg-dry	100	30-Nov-2018 15:00
MOISTURE - ASTM D2216		Method:A	STM D2216	Telegraphic Control of the Control o			Analyst: DFF
Percent Moisture	22.4		0.0100	0.0100	wt%	1	29-Nov-2018 11:3

Note: See Qualifiers Page for a list of qualifiers and their explanation.

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Client:

Weston Solutions, Inc.

Project: FJ Doyle RA/TX

Sample ID:

FJD03-05-20181128-12-56

Collection Date:

28-Nov-2018 12:40

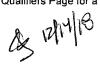
**ANALYTICAL REPORT** 

WorkOrder:HS18111414 Lab ID:HS18111414-04

Matrix:Soil

ANALYSES	RESULT	QUAI	MDL	REPORT	UNITS	DILUTION FACTOR	DATE ANALYZED	
ANALIGES	RESULT QUAL		WDL	LIMIT	UNITS	FACTOR	ANALIZED	
LOW-LEVEL PAHS		Method:			Prep.SW3541 / 2	9-Nov-2018	Analyst GE)	
Acenaphthene	U		0.00063	0.0041	mg/Kg-dry	1	29-Nov-2018 21:18	
Acenaphthylene	U		0.0013	0.0041	mg/Kg-dry	1	29-Nov-2018 21:18	
Anthracene	U		0.00063	0.0041	mg/Kg-dry	1	29-Nov-2018 21:18	
Benz(a)anthracene	0.0020	A JE	0.0020	0.0041	mg/Kg-dry	1	29-Nov-2018 21:18	
Benzo(a)pyrene	0.0017	8	0.0013	0.0041	mg/Kg-dry	1	29-Nov-2018 21:18	
Benzo(b)fluoranthene	0.0022	ظرلا	0.0015	0.0041	mg/Kg-dry	1	29-Nov-2018 21:18	
Benzo(g,h,i)perylene	U		88000.0	0.0041	mg/Kg-dry	1	29-Nov-2018 21:18	
Benzo(k)fluoranthene	U	00000000000000000000000000000000000000	0.0011	0.0041	mg/Kg-dry	1	29-Nov-2018 21:18	
Chrysene	0.0028	J J J	P 0.0010	0.0041	mg/Kg-dry	1	29-Nov-2018 21:18	
Dibenz(a,h)anthracene	U		0.0020	0.0041	mg/Kg-dry	1	29-Nov-2018 21:18	
Fluoranthene	U		0.0014	0.0041	mg/Kg-dry	1	29-Nov-2018 21:18	
Fluorene	U		0.0014	0.0041	mg/Kg-dry	1	29-Nov-2018 21:18	
Indeno(1,2,3-cd)pyrene	U		0.0010	0.0041	mg/Kg-dry	1	29-Nov-2018 21:18	
Naphthalene	0.0017	450	0.00075	0.0041	mg/Kg-dry	1	29-Nov-2018 21:18	
Phenanthrene	0.0051		0.0019	0.0041	mg/Kg-dry	1	29-Nov-2018 21:18	
Pyrene	0.0034	<i>*</i> বর্ণ	0.00075	0.0041	mg/Kg-dry	1	29-Nov-2018 21:18	
Surr: 2-Fluorobiphenyl	71.2		•	43-125	%REC	1	29-Nov-2018 21:1	
Surr: 4-Terphenyl-d14	98.0	200 A.		32-125	%REC	1	29-Nov-2018 21:1	
Surr: Nitrobenzene-d5	74.6			37-125	%REO	1	29-Nov-2018 21:1	
PCBS BY SW8082A		Method:	SW8082		Prep:SW3541/36	65 <b>A</b> / 29-Nov	-2018 Analyst JLJ	
Aroclor 1016	U		0.0053	0.021	mg/Kg-ary	1	30-Nov-2018 00:29	
Aroclor 1221	U	N. S.	0.0070	<b>0</b> .021	mg/Kg-dry	1	30-Nov-2018 00:29	
Aroclor 1232	U		0.0056	0.021	mg/Kg-dry	1	30-Nov-2018 00:29	
Aroclor 1242	U		0.0074	0.021	mg/Kg-dry	1	30-Nov-2018 00:29	
Aroclor 1248	· U		0.0074	0.021	mg/Kg-dry	1	30-Nov-2018 00:29	
Aroclor 1254	U		0.0059	0.021	mg/Kg-dry	1	30-Nov-2018 00:29	
Aroclor 1260	U		0.0050	0.021	mg/Kg-dry	1	30-Nov-2018 00:29	
Surr: Decachlorobiphenyl	138			54-143	%REC	1	30-Nov-2018 00:2	
Surr: Tetrachloro-m-xylene	110			50-140	%REC	1	30-Nov-2018 00:29	
METALS BY SW6020A	11 (12 (12 (12 (12 (12 (12 (12 (12 (12 (	Method:	SW6020		Prep:SW3050A7	29-Nov-2018	Analyst: JCJ	
Arsenic	7.20		0.413	2.95	mg/Kg-dry	5	30-Nov-2018 14:58	
Cadmium	0.733	430	0.159	2.95	mg/Kg-dry	5	30-Nov-2018 14:58	
Cobalt	11.7	ゴレ	0.0884	2.95	mg/Kg-dry	5	30-Nov-2018 14:58	
iron	22,000	en colofere/recelor//desenvaluroscore	10.8	295	mg/Kg-dry	5	30-Nov-2018 14:58	
Lead	15.4		0.0766	2.95	mg/Kg-dry	5	30-Nov-2018 14:58	
Manganese	1,620	ter december of the control of the c	5.07	58.9	mg/Kg-dry	100	30-Nov-2018 15:02	
MOISTURE - ASTM D2216	ı	Method:AS	TM D2216				Analyst: DFF	
Percent Moisture	20.7		0.0100	0.0100	wt%	1	29-Nov-2018 11:30	

Note: See Qualifiers Page for a list of qualifiers and their explanation.



10 of 602

Client:

Weston Solutions, Inc.

Project:

FJ Doyle RA/TX

Sample ID: Collection Date: FJD03-07-20181128-12-56 28-Nov-2018 12:33 **ANALYTICAL REPORT** 

WorkOrder:HS18111414 Lab ID:HS18111414-05

Matrix:Soil

	,					DILUTION	DATE
ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	FACTOR	ANALYZED
LOW-LEVEL PAHS		Method:	SW8270		Prep:SW3541 / 2	9-Nov-2018	Analyst: GEY
Acenaphthene	U		0.00061	0.0040	mg/Kg-dry	1	29-Nov-2018 18:14
Acenaphthylene	U		0.0012	0.0040	mg/Kg-dry	1	29-Nov-2018 18:14
Anthracene	υ		0.00061	0.0040	mg/Kg-dry	1,	29-Nov-2018 18:14
Benz(a)anthracene	0.0020	430	0.0020	0.0040	mg/Kg-dry	1	29-Nov-2018 18:14
Benzo(a)pyrene	U		0.0012	0.0040	mg/Kg-dry	1	29-Nov-2018 18:14
Benzo(b)fluoranthene	Ū		0.0015	0.0040	mg/Kg-dry	1	29-Nov-2018 18:14
Benzo(g,h,i)perylene	U		0.00086	0.0040	mg/Kg-dry	1	29-Nov-2018 18:14
Benzo(k)fluoranthene	U	********************************	0.0011	0.0040	mg/Kg-dry	1	29-Nov-2018 18:14
Chrysene	0.0022	25	<b>%</b> 0.00098	0.0040	mg/Kg-dry	1	29-Nov-2018 18:14
Dibenz(a,h)anthracene	U	**************************************	0.0020	0.0040	mg/Kg-dry	1	29-Nov-2018 18:14
Fluoranthene	U		0.0013	0.0040	mg/Kg-dry	1	29-Nov-2018 18:14
Fluorene	Ū	etterenenen om en	0.0013	0.0040	mg/Kg-dry	1	29-Nov-2018 18:14
Indeno(1,2,3-cd)pyrene	U		0.00098	0.0040	mg/Kg-dry	1	29-Nov-2018 18:14
Naphthalene	0.0028	15	CO.00074	0.0040	mg/Kg-dry	1	29-Nov-2018 18:14
Phenanthrene	<u> الح</u> لم	UJK	<b></b> 0.0018	0.0040	mg/Kg-dry	1	29-Nov-2018 18:14
Pyrene	0.016	v (944-44) () () () () () () () () () () () () ()	0.00074	0.0040	mვ/Kg-dry	1	29-Nov-2018 18:14
Surr: 2-Fluorobiphenyl	52.5			<b>43</b> -125	%REC	1	29-Nov-2018 18:14
Surr: 4-Terphenyl-d14	105			32-125	%REC	1	29-Nov-2018 18:14
Surr: Nitrobenzene-d5	55.2			37-125	%REC	1	29-Nov-2018 18:14
PCBS BY SW8082A		Method:	SW8082		Prep.SW5541/36	65A / 29-Nov	-2018 Analyst JLJ
Aroclor 1016	U		0.0051	0.020	mg/Kg-dry	1	30-Nov-2018 00:45
Aroclor 1221	U		0.0069	0.020	mg/Kg-dry	1	30-Nov-2018 00:45
Aroclor 1232	U		0.0055	0.020	mg/Kg-dry	1	30-Nov-2018 00:45
Aroclor 1242	U		0.0072	0.020	mg/Kg <b>-dry</b>	1	30-Nov-2018 00:45
Aroclor 1248	U		0.0072	0.020	mg/Kg-dry	1	30-Nov-2018 00:45
Aroclor 1254	U		0.0058	0.020	mg/Kg-dry	1	30-Nov-2018 00:45
Aroclor 1260	0.024		0.0049	0.020	mg/Kg-dry	1	30-Nov-2018 <b>00:45</b>
Surr: Decachlorobiphenyl	126			54-143	%REC	1	30-Nov-2018 00:45
Surr: Tetrachloro-m-xylene	92.1			50-140	%REO	1	30-Nov-2018 00:45
METALS BY SW6020A		Method:	SW6020		Prep:\$\/\/3050A/	29-Nov-2018	Analyst: JCJ
Arsenic	10.0	•	0.404	2.38	mg/Kg-dry	5	30-Nov-2018 15:00
Cadmium	1.21	ナゴ	Q 0.156	2.88	mg/Kg-dry	5	30-Nov-2018 15:00
Cobalt	9.14	コレ	0.0865	2.88	mg/Kg-dry	5	30-Nov-2018 15:00
Iron	46,900	<b>⊅</b> Y—	10.6	258	mg/Kg-dry	5	30-Nov-2018 <b>15:00</b>
Lead	51.7		0.0750	2.88	mg/Kg-dry	5	30-Nov-2018 15:00
Manganese	1,020	***************************************	2.48	28.8	mg/kg-dry	50	30-Nov-2018 15:04
MOISTURE - ASTM D2216	ì	/lethod:AS	STM D2216				Analyst: DFF
Percent Moisture	18.6		0.0100	0.0100	wt%	1	29-Nov-2018 11:30

Note: See Qualifiers Page for a list of qualifiers and their explanation.

& cally 80

Client: Project: Weston Solutions, Inc.

FJ Doyle RA/TX

Sample ID:

FJD03-07-20181128-12-57

Collection Date:

28-Nov-2018 12:33

**ANALYTICAL REPORT** 

WorkOrder:HS18111414 Lab ID:HS18111414-06

Matrix:Soil

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL PAHS		Method:S	W8270		Prep:SW3541 / 2	9-Nov-2018	Analyst: GEY
Acenaphthene	0.0052		0.00061	0.0040	mg/Kg-dry	1	30-Nov-2018 15:26
Acenaphthylene	0.0027	430	0.0012	0.0040	mg/Kg-dry	1	30-Nov-2018 15:26
Anthracene	0.0076	• •	0.00061	0.0040	mg/Kg-dry	1	30-Nov-2018 15:26
Benz(a)anthracene	0.0039	SIQ	0.0020	0.0040	mg/Kg-dry	1	30-Nov-2018 15:26
Benzo(a)pyrene	0.0023	8	0.0012	0.0040	mg/Kg-dry	1	30-Nov-2018 15:26
Benzo(b)fluoranthene	0.0019	4	0.0015	0.0040	mg/Kg-dry	1	30-Nov-2018 15:26
Benzo(g,h,i)perylene	0.0038	J J	0.00086	0.0040	mg/Kg-dry	1	30-Nov-2018 15:26
Benzo(k)fluoranthene	U		0.0011	0.0040	mg/Kg-dry	1 .	30-Nov-2018 15:26
Chrysene	0.0048		0.00098	0.0040	mg/Kg-dr <b>y</b>	1	30-Nov-2018 15:26
Dibenz(a,h)anthracene	U	<u> </u>	0.0020	0.0040	mg/Kg-cry	1	30-Nov-2018 15:26
Fluoranthene	0.0044		0.0013	0.0040	mg/Kg-dry	1	30-Nov-2018 15:26
Fluorene	0.0087		0.0013	0.0040	mg/Kg-dry	1	30-Nov-2018 15:26
Indeno(1,2,3-cd)pyrene	U		0.00098	0.0040	mg/Kg-dry	1	30-Nov-2018 15:26
Naphthalene	0.0090	nen ven allet 1986 et eel aan een ee <b>tilbel alkeelde</b> e	0.00074	0.0040	mg/∺g-dry	1	30-Nov-2018 15:26
Phenanthrene	0.048	JK	0.0018	0.0040	mg/Kg-dry	1	30-Nov-2018 15:26
Pyrene	0.015	ry y y y y ry dit e delen er y nga ng y ng y y y re de ni Mangar y y	0.00074	0.0040	mg/Kg-dry	1	30-Nov-2018 15:26
Surr: 2-Fluorobiphenyl	76.7			43-125	%REC	1	30-Nov-2018 15:26
Surr: 4-Terphenyl-d14	94.9	ranana iyo ir a cari yiyaran sariiy oo ayan yaar		<b>32-125</b>	%REC	1	30-Nov-2018 15:26
Surr: Nitrobenzene-d5	78.2			<b>37</b> -125	%REC	1	30-Nov-2018 15:26
PCBS BY SW8082A		Method:S	W8082		Prep: S.W3541/36	65A / 29-Nov	-2018 An <mark>alyst: JLJ</mark>
Aroclor 1016	U		0.0051	0.020	mç/Kg-dry	1	30-Nov-2018 01:32
Aroclor 1221	U		0.0069	0.020	mg/Kg-dry	1	30-Nov-2018 01:32
Aroclor 1232	U		0.0055	0.620	mg/Kg-dry	1	30-Nov-2018 01:32
Aroclor 1242	U		0.0072	0.020	mg/Kg-dry	1	30-Nov-2018 01:32
Aroclor 1248	U		0.0072	0.020	mg/Kg-dry	1	30-Nov-2018 01:32
Aroclor 1254	U		0.0058	0.020	mg/Kg-dry	1	30-Nov-2018 01:32
Aroclor 1260	U		0.0049	0.020	mg/Kg-dry	1	30-Nov-2018 01:32
Surr: Decachlorobiphenyl	120			54-143	%REC	1	30-Nov-2018 <b>01:3</b> 2
Surr: Tetrachloro-m-xylene	95.2			50-140	%REO	1	30-Nov-2018 01:32
METALS BY SW6020A		Method:S	W6020		Prep.EW3050A7	29-Nov-2018	Analyst: JCJ
Arsenic	6.59		0.404	2.89	mg/સg-dty	5	30-Nov-2018 15:02
Cadmium	1.26	~ 70	0.156	2.89	mg/Kg-dry	5	30-Nov-2018 15:02
Cobalt	7.33	<b>ブレ</b>	0.0866	2.39	mg/Kg-dry	5	30-Nov-2018 15:02
Iron	12,800	<b>J</b> K-	10.6	239	mg/Kg-dry	5	30-Nov-2018 15:02
Lead	47.9		0.0751	2.89	mg/Kg-dry	5	30-Nov-2018 15:02
Manganese	1,030	00000, 00000 0100000 010000, 711000000011	2.48	28.9	mg/kg-dry	50	30-Nov-2018 15:11
MOISTURE - ASTM D2216	ı	Method:AS	FM D2216				Analyst: DFF
Percent Moisture	18.9		0.0100	0.0100	wt%	1	29-Nov-2018 11:30

Note: See Qualifiers Page for a list of qualifiers and their explanation.



12 of 602

Client:

Weston Solutions, Inc.

Project:

FJ Doyle RA/TX

Sample ID: Collection Date: FJD03-09NSEW-20181128-12-56

28-Nov-2018 12:28

**ANALYTICAL REPORT** 

WorkOrder:HS18111414 Lab ID:HS18111414-07

Matrix:Soil

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL PAHS		Method:SW8	270		Prep:SW3541 / 2	9-Nov-2018	Anaiyst: GEY
Acenaphthene	U	0.0	0058	0.0038	mg/l <g-dry< td=""><td>1</td><td>30-Nov-2018 15:46</td></g-dry<>	1	30-Nov-2018 15:46
Acenaphthylene	U	0.	0012	0.0038	mg/Kg-dry	1	30-Nov-2018 15:46
Anthracene	0.0012	JJQ 0.0	0058	0.0038	mg/Kg-dry	1	30-Nov-2018 15:46
Benz(a)anthracene	0.0037	JJQ 0.	.0019	0.0038	mg/Kg-dry	1	30-Nov-2018 15:46
Benzo(a)pyrene	U	0.	.0012	0.0038	mg/Kg-dry	1	30-Nov-2018 15:46
Benzo(b)fluoranthene	U	0.	0014	0.0038	mg/Kg-dry	1	30-Nov-2018 15:46
Benzo(g,h,i)perylene	0.0039	0.0	0081	0.0038	mg/Kg-dry	1	30-Nov-2018 15:46
Benzo(k)fluoranthene	U	0.	0010	0.0038	mg/Kg-dry	1	30-Nov-2018 15:46
Chrysene	0.0031	JJQ0.0	0093	0.0038	mg/Kg-dry	1	30-Nov-2018 15:46
Dibenz(a,h)anthracene	U	0.	0019	0.0038	mg/Kg-cry	1	3G-Nov-2018 15:46
Fluoranthene	0.0040	0.	.0013	0.0038	mg/Kg-dry	1	30-Nov-2018 15:46
Fluorene	U	0.	.0013	0.0038	mg/Kg-áry	1	30-Nov-2018 15:46
Indeno(1,2,3-cd)pyrene	U	0.0	0093	0.0038	mg/Kg-dry	1	30-Nov-2018 15:46
Naphthalene	0.010	0.0	007 <b>0</b>	0.0038	mg/Kg-dry	1	30-Nov-2018 15:46
Phenanthrene	0.0040	0.	.0017	0.0038	mg/Kg-dry	1	30-Nov-2018 15:46
Pyrene	0.0068	0.0	0070	0.0038	mç/Kg-d <b>ry</b>	1	30-Nov-2018 15:46
Surr: 2-Fluorobiphenyl	<i>57.7</i>			43-125	%RE0	1	30-Nov-2018 15:46
Surr: 4-Terphenyl-d14	59.7	connect the literature (1995) (I Millionin anno 1996) (I Voice		32-125	%REC	1	30-Nov-2018 15:46
Surr: Nitrobenzene-d5	66.6			37-125	%REC	1	30-Nov-2018 15:46
PCBS BY SW8082A		Method:SW8	082		Prep:SW3541/36	65A / 29-Nov	-2018 Analyst: JLJ
Aroclor 1016	U	0.	.0049	0.020	mg/Kg-dry	1	30-Nov-2018 01:47
Aroclor 1221	U	0.	.0066	0.020	mg/Kg-dry	1	30-Nov-2018 01:47
Aroclor 1232	U	0.	.0053	0.020	mg/Kg-dry	1	30-Nov-2018 01:47
Aroclor 1242	U	0	.0069	0.020	mg/Kg-dry	1	30-Nov-2018 01:47
Aroclor 1248	U	0	.00 <b>69</b>	0.020	mg/Kg-dry	1	30-Nov-2018 01:47
Aroclor 1254	U	0	.0055	0.020	mg/Kg-dr <b>y</b>	1	30-Nov-2018 01:47
Aroclor 1260	U	0	.0047	0.020	mg/Kg-dry	1	30-Nov-2018 01:47
Surr: Decachlorobiphenyl	129	entries branching and a second		54-143	%REC	1	30-Nov-2018 01:47
Surr: Tetrachloro-m-xylene	102			50-140	%REC	1	30-Nov-2018 <b>0</b> 1:47
METALS BY SW6020A		Method:SW6	020		Prep:S:///3080/c/	29-Nov-2018	3 Analyst JCJ
Arsenic	7.06	(COCCO, COCCO, COCC	0.382	2.73	mg/Kg-dry	5	30-Nov-2018 15:12
Cadmium	0.792	476	0.147	2.73	mg/Kg-dry	5	30-Nov-2018 15:12
Cobalt	7.23	ゴレ '0	.0819	2.73	mg/Kg-dry	5	30-Nov-2018 15:12
<b>iron</b>	13,700		9.99	273	mg/Kg-ary	5	30-Nov-2016 15:12
Lead	40.0	0	.0709	2.73	mg/Kg-dry	5	30-Nov-2018 15:12
Manganese	939	ting of the comments are consistent on appropriation arrange or service and analysis.	0.235	2.73	mg/Kg-dry	5	30-Nov-2018 15:12
MOISTURE - ASTM D2216	1	Method:ASTM	02 <b>216</b>				Analyst: DFF
Percent Moisture	15.0	0	.0100	0.0100	wt%	1	29-Nov-2018 11:30

Note: See Qualifiers Page for a list of qualifiers and their explanation.

& Mules

Client:

Weston Solutions, Inc.

Project:

FJ Doyle RA/TX

Sample ID: Collection Date:

28-Nov-2018 12:20

FJD03-10NW-20181128-30-56

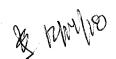
**ANALYTICAL REPORT** 

WorkOrder:HS18111414 Lab ID:HS18111414-08

Matrix:Soil

ANALYSES	RESULT Q	UAL MDL	REPORT LIMIT	DILUTION UNITS FACTOR	DATE ANALYZED
LOW-LEVEL PAHS	1	fethod:SW8270		Prep:SW3541 / 29-Nov-2018	Analyst: GEY
Acenaphthene	U	0.00059	0.0039	mg/Kg-dry 1	30-Nov-2018 16:27
Acenaphthylene	Ŭ	0.0012	0.0039	mg/Kg-dry 1	30-Nov-2018 16:27
Anthracene	U	0.00059	0.0039	mg/Kg-dry 1	30-Nov-2018 16:27
Benz(a)anthracene	U	0.0019	0.0039	mg/Kg-dry 1	30-Nov-2018 16:27
Benzo(a)pyrene	Ü	0.0012	0.0039	mg/Kg-dry 1	30-Nov-2018 16:27
Benzo(b)fluoranthene	U	0.0014	0.0039	rag/Kg-dry 1	30-Nov-2018 16:27
Benzo(g,h,i)perylene	U	0.00083	0.0039	mg/Kg-dry 1	30-Nov-2018 16:27
Benzo(k)fluoranthene	Ü	0.0011	0.0039	mg/Kg-dry 1	30-Nov-2018 16:27
Chrysene	U	0.00094	0.0039	mg/Kg-dry 1	30-Nov-2018 16:27
Dibenz(a,h)anthracene	Ŭ	0.0019	0.0039	mg/Kg-dry 1	30-Nov-2018 16:27
Fluoranthene	U	0.0013	0.0039	rng/Kg-dry 1	30-Nov-2018 16:27
Fluorene	Ũ	. 0.0013	0.0039	mg/Kg-ary 1	30-Nov-2018 16:27
Indeno(1,2,3-cd)pyrene	U	0.00094	0.0039	mg/Kg-ary 1	30-Nov-2018 16:27
Naphthalene	0.0058	0.09071	0.0039	mg/Kg-dry 1	30-Nov-2018 16:27
Phenanthrene	U	0.0018	0.0039	m∉/Kg-dry 1	30-Nov-2018 16:27
Pyrene	V	0.00071	0,0039	mÿ/Kg-diy 1	30-Nov-2018 16:27
Surr: 2-Fluorobiphenyl	77.8		43-125	%REC 1	30-Nov-2018 16:27
Surr: 4-Terphenyl-d14	77.4	and the control of th	32-125	%REC 1	30-Nov-2018 16:27
Surr: Nitrobenzene-d5	78.8		37-125	%R20 1	30-Nov-2018 16:27
PCBS BY SW8082A	and the same of th	lethod:SW8882		Prep.S.V/3541/3665A / 29-No	-2018 Analyst: JLJ
Aroclor 1016	U	0.0050	0.020	mg/Kg-ary 1	29-Nov-2018 22:54
Aroclor 1221	U	0.0066	0.020	mg/Kg-áry 1	29-Nov-2018 22:54
Aroclor 1232	U	0.0053	0.020	mg/Kg-dry 1	29-Nov-2018 22:54
Aroclor 1242	U	0.0070	0.020	mg/Kg-dry 1	29-Nov-2018 22:54
Aroclor 1248	U	0.0070	0.020	mg/Kg-ary 1	29-Nov-2018 <b>22:54</b>
Aroclor 1254	U	0.0055	0.020	mg/Kg-dry 1	29-Nov-2016 <b>22:54</b>
Aroclor 1260	U	0.0047	0.020	mg/Kg-dry 1	29-Nov-2018 <b>22:54</b>
Surr: Decachlorobiphenyl	124	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	54-143	%REC 1	29-Nov-2018 <b>22:54</b>
Surr: Tetrachloro-m-xylene	95.3		50-140	%REQ 1	29-Nov-2018 <b>22.54</b>
METALS BY SW6020A	ı	Method:SW6020		Prep: 20/3056A/L29-Nov-201	3 Analyst: JCJ
Arsenic	3.51	0.381	2.72	mg/Kg-dr <b>y</b> 5	30-Nov-2016 15:14
Cadmium	0.299	JJQ 0.147	2.72	mg/kg-ary 5	30-Nov-2018 15:14
Cobalt	8.49 7	•	2.72	mg/Kg-dry 5	30-Nov-2018 15:14
Iron	9,610	9.95	272	mg/Kg-dry 5	30-Nov-2016 15:14
Lead	6.03	0.07 <b>07</b>	2.72	mg/Kg-dry 5	30-Nov-2018 15:14
Manganese	1,230	4.68	54.4	mg/Kg-diy 100	30-Nov-2018 15:43
MOISTURE - ASTM D2216	Me	thod:ASTM D2216			Analyst DFF
Percent Moisture	15.5	0.0100	0.0100	<b>w</b> t% 1	29-Nov-2018 11:30

Note: See Qualifiers Page for a list of qualifiers and their explanation.



Client: Project: Weston Solutions, Inc.

FJ Doyle RA/TX

Sample ID:

FJD07-01-20181128-12-56

Collection Date:

28-Nov-2018 12:11

**ANALYTICAL REPORT** 

WorkOrder:HS18111414 Lab ID:HS18111414-09

Matrix:Soil

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL PAHS		Method:	SW8270		Prep:SW3541 / 2	9-Nov-2018	Analysti GEY
Acenaphthene	U		0.00066	0.0044	m⊊/Kg-dry	1	30-Nov-2018 16:06
Acenaphthylene	U	. 2.0.0.2.000	0.0013	0.0044	mg/Kg-dry	1	30-Nov-2018 16:06
Anthracene	0.0011	JU	0.00066	0.0044	mg/Kg-dry	1	30-Nov-2018 16:06
Benz(a)anthracene	U		0.0021	0.0044	mg/Kg-dry	1	30-Nov-2018 16:06
Benzo(a)pyrene	0.0014	1 JK	0.0013	0.0044	mg/Kg-dry	1	30-Nov-2018 16:06
Benzo(b)fluoranthene	0.0023	s V	0.0016	0.0044	mg/Kg-dr <b>y</b>	1	30-Nov-2018 16:06
Benzo(g,h,i)perylene	U		0.00093	0.0044	mg/i≤g-ary	1	30-Nov-2018 16:06
Benzo(k)fluoranthene	U		0.0012	0.0044	mg/Kg-dry	1	30-Nov-2018 16:06
Chrysene	0.0018	كال ملد	0.0011	0.0044	mg/Kg-dr <b>y</b>	1	30-Nov-2018 16:06
Dibenz(a,h)anthracene	U		0.0021	0.0044	mg/Kg-dry	ĭ	30-Nov-2018 16:06
Fluoranthene	0.0027	+11	0.0015	0.0044	mg/Kg-dry	1	30-Nov-2018 16:06
Fluorene	U		0.0015	0.0044	mg/Kg-dry	1	30-Nov-2018 16:06
Indeno(1,2,3-cd)pyrene	U		0.0011	0.0044	mg/Kg-ary	1	30-Nov-2018 16:06
Naphthalene	0.025	erdelik delik bilak salar dadar samar kalar samar sasar	0.00079	0.0044	mg/Kg-dry	1	30-Nov-2018 16:06
Phenanthrene	0.0076		0.0020	0.0044	mg/Kg-dry	1	30-Nov-2018 16:06
Pyrene	0.0031	\$ II	<b>Q</b> 0.00079	0.0044	mg/Kg-dry	1	30-Nov-2018 16:06
Surr: 2-Fluorobiphenyl	84.5		`	43-125	%REC	1	30-Nov-2018 16:06
Surr: 4-Terphenyl-d14	108	ekin cinnonkonomekan nonokakeen eer		<b>32-1</b> 25	%REC	1	30-Nov-2018 16:06
Surr: Nitrobenzene-d5	88.5			<b>37</b> -12 <b>5</b>	96RE0	1	30-Nov-2018 <b>16:06</b>
PCBS BY SW8082A		Method:	5W8082		Prep:5///3/341/36	65A / 29-Nov	-2018 Analyst JLJ
Aroclor 1016	U		0.0056	0.022	mg/Kg-dry	1	30-Nov-2018 02:03
Aroclor 1221	U		0.0075	0.022	mg/Kg-dry	1	30-Nov-2018 02:03
Arocior 1232	U		0.00 <b>60</b>	0.022	mç7Kç-dry	1	30-Nov-2018 02:03
Aroclor 1242	U		0.0079	0.022	mg/Kg-dry	1	30-Nov-2018 02:03
Aroclor 1248	U		0.0079	0.022	mg/Kg-dry	î	30-Nov-2018 02:03
Aroclor 1254	U		0.0063	0.022	mq/Kg-dry	1	30-Nov-2018 <b>02:03</b>
Aroclor 1260	; <b>U</b>		0.005 <b>3</b>	0.022	mg/Kg-diy	1	30-Nov-2018 02:03
Surr: Decachlorobiphenyl	135			54-143	%RE0	1	30-Nov-2018 <b>02:03</b>
Surr: Tetrachloro-m-xylene	113			50-140	%RE0	1	30-Nov-2018 02:03
METALS BY SW6020A		Method:	SW6020		Prep:8 A3050A./	29-Nov-2018	Analyst: JCJ
Arsenic	6.96		0.435	3.11	mų/Kg-dry	5	30-Nov-2018 15: <b>24</b>
Cadmium	0.812	-b- JC	P 0.168	3.11	mg///g-dry	5	30-Nov-2018 <b>15:24</b>
Cobalt	15.1	コレ	0.0932	3.41	mg///g-dry	5	30-Nov-2018 15:24
lron	24,700		11.4	311	mg/Kg-diy	5	30-Nov-2013 15:24
Lead	23.8		0.0808	3.11	mg/Kg-dry	5	30-Nov-2016 15:24
Manganese	1,590	··· ··· ··· ··· · · · · · · · · · · ·	5.34	62.1	mg/Kg-dry	100	30-Nov-2018 15:50
MOISTURE - ASTM D2216 Percent Moisture	25. i	lethod:AS	TM D2216	0.0100	<b>v</b> /C/A	1	Analyst: DFF 29-Nov-2018 11:30
. C. Cont Molecule			V.W.100	010100	** * * * * *		

Note: See Qualifiers Page for a list of qualifiers and their explanation.

# DATA QUALITY ASSURANCE REVIEW

SITE NAME Frank J. Doy	le Salvage Removal Action	on			
WORK ORDER NUMBER	20600.012.001.1175.01	TDD NUMBER	0001/18-175		
PROJECT NUMBER		SDG NUMBER	HS18120010		
Weston Solutions, Inc. (WES 20600.012.001.1175.01; SDG No. analyzed for Polychlorinated Biphebelow.	HS18120010; Frank J. I	Doyle Salvage Ren			
	SAMPLE NUM	IBERS			
EAS04-20181130-18-56	FJD05-03A-20181130	-12-56 FJ	D05-04A-20181130-18-56		
FJD08-02-20181130-12-56	FJD09-01-20181130-0	6-56 FJ	D02-08-20181130-18-56		
	-				
	<del>.</del> .		_		
	-				
	_				
This data mashaga was walidated to	a datamain a if Oscalita Ca	ntmal (OC) an a sifi a	nations was achieved fallowing		
This data package was validated to USEPA National Functional Guide National Functional Guidelines f Laboratory Program National Fu	elines for Organic Superfi for Inorganic Superfund	ınd Methods Data Data Review (Jan	Review (January, 2017), USEPA nuary, 2017), USEPA Contrac		
(April, 2016), <i>Quality Assurance</i> /9 the Regional Protocol for Holdin qualifications are listed in the follows:	Quality Control Guidance ag Times, Blanks, and V	e for Removal Acti	vities (September, 2011), and/o		
REVIEWER Gloria J. Swi	talski	DATE	January 28, 2019		

## **Data Qualifiers**

Data Qualifier Definitions were supplied by the Office of Solid Waste and Emergency Response (September 1989) and are included in the Functional Guidelines. Data qualifiers may be combined (UJ, QJ) with the corresponding combination of meanings. Additional qualifiers may be added to provide additional, more specific information (JL, UB, QJK), modifying the meaning of the primary qualifier. Additional qualifiers utilized by WESTON are H, L, K, B, and Q.

U - The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation or detection limit, which has been adjusted for sample weight/sample volume, extraction volume, percent solids, sample dilution or other analysis specific parameters.

An additional qualifier, "B", may be appended to indicate that while the analyte was detected in the sample, the presence of the analyte may be attributable to blank contamination and the analyte is therefore considered undetected with the sample detection or quantitation limit for the analyte being elevated.

J - The analyte was analyzed for, but the associated numerical value may not be consistent with the amount actually present in the environmental sample or may not be consistent with the sample detection or quantitation limit. The value is an estimated quantity. The data should be seriously considered for decision-making and are usable for many purposes.

An additional qualifier will be appended to the "J" qualifier that indicates the bias in the reported results:

- L Low bias
- H High bias
- K Unknown bias
- Q The reported concentration is less than the sample quantitation limit for the specific analyte in the sample.

The L and H qualifier will only be employed when a single qualification is required. When more than one quality control parameter affects the analytical result and a conflict results in assigning a bias, the result will be flagged JK.

- R Quality Control indicates that data are unusable for all purposes. The analyte was analyzed for, but the presence or absence of the analyte has not been verified. Resampling and reanalysis are necessary for verification to confirm or deny the presence of an analyte.
- N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

#### PCB FRACTION EVALUATION

# 1. Analytical Method:

Samples were prepared and analyzed for PCBs using the procedures specified in SW-846 Method 8082A.

#### 2. Holding Time:

The samples were received within the recommended ≤6°C NFG limit. All samples were extracted within the required holding time of less than 1 year after collection. Analysis of the samples was conducted within 40 days of extraction. No qualifications are placed on the data.

## 3. Initial Calibration:

The correlation coefficient of the multipoint initial calibration was greater than or equal to 0.995 or the percent relative standard deviation (%RSD) was less than or equal to 20%. No qualifications are placed on the data.

## 4. Continuing Calibration:

The continuing calibration check was analyzed at the required frequency and met recovery requirements of 75%-125% [percent difference (%D) was less than 25%]. No qualifications are placed on the data.

#### 5. Blanks:

#### A. Laboratory Blanks:

A method blank was prepared at the required frequency of every time samples were extracted for each matrix and concentration or every 20 samples whichever is greater. No target analytes were detected in the method blanks at concentrations that warrant blank action. No qualifications are placed on the data.

## B. Field Blanks:

No field blank samples were submitted with this analytical package. No qualifications are placed on the data.

## 6. Surrogates:

All recoveries of the surrogates were within the control limits provided. No qualifications are placed on the data.

# 7. Matrix Spikes/Matrix Spike Duplicates (MS/MSD):

Sample FJD08-02-20181130-12-56 underwent MS/MSD analysis for the solid matrix. Recoveries of all spiked analytes were within the control limits provided. No qualifications are placed on the data.

# 8. Duplicates:

# A. Laboratory Duplicate Analysis:

Sample FJD08-02-20181130-12-56 underwent MS/MSD analysis for the solid matrix. QC criteria are that the relative percent difference (RPD) values for the duplicate sample analysis are less than 20% for aqueous samples and less than 35% for solid samples. All QC criteria were met. No qualifications are placed on the data.

## B. Field Duplicate Analysis:

No field duplicate samples were submitted with this analytical package. No qualifications are placed on the data.

## 9. Laboratory Control Sample (LCS):

The laboratory analyzed an LCS and recoveries were within the control limits provided. No qualifications are placed on the data.

## 10. Target Compound Identification, Quantitation, and Reporting Limits:

Concentrations of all reported compounds were correctly calculated.

The %D between the column results were within the acceptance limits (≤25). No qualifications are placed on the data.

## 11. Laboratory Contact:

The laboratory was contacted on January 23, 2019 regarding the lack of raw data for one continuing calibration blank. An acceptable response was received on January 28, 2019.

#### 12. Overall Assessment:

The analytical data is acceptable for use without qualification.

# DATA QUALITY ASSURANCE REVIEW

SITE NAME Frank J. Doy	le Salvage Removal Actio	n			
WORK ORDER NUMBER	20600.012.001.1175.01	TDD NUMBER	0001/18-175		
PROJECT NUMBER		SDG NUMBER	HS18120010		
Weston Solutions, Inc. (WES 20600.012.001.1175.01; SDG No. analyzed for Polynuclear Aromatic below.	HS18120010; Frank J. Г	Ooyle Salvage Rem			
	SAMPLE NUM	BERS			
EAS04-20181130-18-56	FJD05-03A-20181130-	-12-56 FJD	005-04A-20181130-18-56		
FJD08-02-20181130-12-56	FJD09-01-20181130-0	6-56 FJD	FJD02-08-20181130-18-56		
-			-		
			_		
This data package was validated to USEPA National Functional Guide	elines for Organic Superfu	nd Methods Data R	Review (January, 2017), USEPA		
National Functional Guidelines of Laboratory Program National Fu (April, 2016), Quality Assurance/of the Regional Protocol for Holdin qualifications are listed in the follo	nctional Guidelines for F Quality Control Guidance g Times, Blanks, and V	High Resolution Su for Removal Activ	perfund Methods Data Review ities (September, 2011), and/o		
REVIEWER Gloria J. Swit	talski	DATE	January 29, 2019		

### **Data Qualifiers**

Data Qualifier Definitions were supplied by the Office of Solid Waste and Emergency Response (September 1989) and are included in the Functional Guidelines. Data qualifiers may be combined (UJ, QJ) with the corresponding combination of meanings. Additional qualifiers may be added to provide additional, more specific information (JL, UB, QJK), modifying the meaning of the primary qualifier. Additional qualifiers utilized by WESTON are H, L, K, B, and Q.

U - The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation or detection limit, which has been adjusted for sample weight/sample volume, extraction volume, percent solids, sample dilution or other analysis specific parameters.

An additional qualifier, "B", may be appended to indicate that while the analyte was detected in the sample, the presence of the analyte may be attributable to blank contamination and the analyte is therefore considered undetected with the sample detection or quantitation limit for the analyte being elevated.

J - The analyte was analyzed for, but the associated numerical value may not be consistent with the amount actually present in the environmental sample or may not be consistent with the sample detection or quantitation limit. The value is an estimated quantity. The data should be seriously considered for decision-making and are usable for many purposes.

An additional qualifier will be appended to the "J" qualifier that indicates the bias in the reported results:

- L Low bias
- H High bias
- K Unknown bias
- Q The reported concentration is less than the sample quantitation limit for the specific analyte in the sample.

The L and H qualifier will only be employed when a single qualification is required. When more than one quality control parameter affects the analytical result and a conflict results in assigning a bias, the result will be flagged JK.

- R Quality Control indicates that data are unusable for all purposes. The analyte was analyzed for, but the presence or absence of the analyte has not been verified. Resampling and reanalysis are necessary for verification to confirm or deny the presence of an analyte.
- N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

#### PAH FRACTION EVALUATION

# 1. Analytical Method:

Samples were prepared and analyzed using the procedures specified in **SW-846 Method 8270D selective ion monitoring (SIM).** 

# 2. Holding Time:

The samples were received within the recommended  $\leq$ 6°C NFG limit. All samples were extracted within the required holding time of less than 7 days for waters and less than 14 days for solids/wastes after collection. Analysis of the samples was conducted within 40 days of extraction. No qualifications are placed on the data.

# 3. Tuning/Performance:

DFTPP tuning of the mass spectrometer(s) was conducted at the required frequency and results were within the required criteria. No qualifications are placed on the data.

#### 4. Initial Calibration:

All individual relative response factors (RRFs) and average RRFs for the initial calibration (IC) were greater than the compound dependent (see Table 34 of National Functional Guidelines) control limits. All percent relative standard deviations (%RSDs) were less than the compound dependent (see Table 34 of National Functional Guidelines) control limits or the correlation coefficient was > 0.990. No qualifications are placed on the data.

# 5. Continuing Calibration:

All individual RRFs for the initial calibration verification (ICV) and continuing calibration (CC) standards were greater than the compound dependent (see Table 34 of National Functional Guidelines) control limits. All percent differences (%Ds) were less than the compound dependent (see Table 34 of National Functional Guidelines) control limits. No qualifications are placed on the data.

#### 6. Blanks:

# A. Laboratory Blanks:

A method blank was prepared at the required frequency of every time samples were extracted for each matrix and concentration or every 20 samples whichever is greater. Target analytes were not detected in the method at concentrations that warrant blank action. No qualifications are placed on the data.

#### B Field Blanks:

No field blank samples were submitted with this analytical package. No qualifications are placed on the data.

## 7. System Monitoring Compounds (SMC):

All recoveries of the system monitoring compounds (surrogates) were within the control limits provided. No qualifications are placed on the data.

## 8. Duplicates:

# A. Laboratory Duplicate Analysis:

Sample FJD08-02-20181130-12-56 underwent matrix spike/matrix spike duplicate (MS/MSD) analysis for the solid matrix. QC criteria are that the relative percent difference (RPD) values for the duplicate sample analysis are less than 20% for aqueous samples and less than 35% for solid samples. All QC criteria were met. No qualifications are placed on the data.

## B. Field Duplicate Analysis:

No field duplicate samples were submitted with this analytical package. No qualifications are placed on the data.

# 9. Matrix Spike/Matrix Spike Duplicate:

Sample FJD08-02-20181130-12-56 underwent MS/MSD analysis for the solid matrix. Recoveries of all spiked analytes were within the control limits provided in both the matrix spike and matrix spike duplicate. No qualifications are placed on the data.

## 10. Internal Standards:

Areas of the six internal standards were within the control limits of a factor of 2 (-50% to +100%) and retention times were within 30 seconds from the associated 12 hour calibration standard. No qualifications are placed on the data.

# 11. Laboratory Control Sample (LCS):

The laboratory analyzed an LCS and recoveries were within the control limits provided. No qualifications are placed on the data.

#### 12. Target Compound Identification:

All target compounds reported by the laboratory met identification criteria of relative retention times (RRT) within 0.06 RRT units of the 12 hour standard and that all ions present in the standard mass spectrum were present in the sample mass spectrum and the abundance of these ions agreed within  $\pm$  20% of the standard. No qualifications are placed on the data.

## 13. Target Compound Quantitation and Reporting Limits:

Concentrations of all reported compounds were correctly calculated.

Reported concentrations less than the reporting limit (RL) qualified "J" by the laboratory are qualified "JQ" to indicate that the result is less than the RL but greater than the method detection limit (MDL).

## 14. Laboratory Contact:

The laboratory was contacted on January 23, 2019 regarding the lack of raw PAH data. An acceptable response was received on January 28, 2019.

# 15. Overall Assessment

Reported concentrations less than the RL qualified "J" by the laboratory were qualified "JQ" to indicate that the result is less than the RL but greater than the MDL.

The analytical data is acceptable for use with the qualifications listed above.

# DATA QUALITY ASSURANCE REVIEW

Frank J. Doyle Salvage Removal Action

SITE NAME

WORK ORDER NUMBER	20600.012.001.1175.01	TDD NUME	BER _	0001/18-175	
PROJECT NUMBER		SDG NUME	BER	HS18120010	
Weston Solutions, Inc. (WEST 20600.012.001.1175.01; SDG No. I analyzed for metals (As, Cd, Co, Fe,	HS18120010; Frank J. D	Ooyle Salvage	Remova	l Action. Six samp	oles were
	SAMPLE NUM	BERS			
EAS04-20181130-18-56	FJD05-03A-20181130-	12-56	FJD05-	04A-20181130-18-5	5
FJD08-02-20181130-12-56	FJD09-01-20181130-0	5-56	FJD02-	08-20181130-18-56	
					<u> </u>
This data package was validated to USEPA National Functional Guidelines fo Laboratory Program National Fun (April, 2016), Quality Assurance/Quality Program Indianal Functional	ines for Organic Superfu r Inorganic Superfund ctional Guidelines for H uality Control Guidance	nd Methods D Data Review Iigh Resolutic for Removal	Oata Revi (January on Super Activities	lew (January, 2017) y, 2017), USEPA fund Methods Data s (September, 2011	, USEPA Contract a Review ), and/or
the Regional Protocol for Holding qualifications are listed in the follow		OA FIESEIVäli	юн (Арг	п 15, 1969). Spec	anc data
REVIEWER Gloria J. Swita	lski	DA	TE	January 24, 2019	

# **Data Qualifiers**

Data Qualifier Definitions were supplied by the Office of Solid Waste and Emergency Response (September 1989) and are included in the Functional Guidelines. Data qualifiers may be combined (UJ, QJ) with the corresponding combination of meanings. Additional qualifiers may be added to provide additional, more specific information (JL, UB, QJK), modifying the meaning of the primary qualifier. Additional qualifiers utilized by WESTON are H, L, K, B, and Q.

U - The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation or detection limit, which has been adjusted for sample weight/sample volume, extraction volume, percent solids, sample dilution or other analysis specific parameters.

An additional qualifier, "B", may be appended to indicate that while the analyte was detected in the sample, the presence of the analyte may be attributable to blank contamination and the analyte is therefore considered undetected with the sample detection or quantitation limit for the analyte being elevated.

J - The analyte was analyzed for, but the associated numerical value may not be consistent with the amount actually present in the environmental sample or may not be consistent with the sample detection or quantitation limit. The value is an estimated quantity. The data should be seriously considered for decision-making and are usable for many purposes.

An additional qualifier will be appended to the "J" qualifier that indicates the bias in the reported results:

- L Low bias
- H High bias
- K Unknown bias
- Q The reported concentration is less than the sample quantitation limit for the specific analyte in the sample.

The L and H qualifier will only be employed when a single qualification is required. When more than one quality control parameter affects the analytical result and a conflict results in assigning a bias, the result will be flagged JK.

- R Quality Control indicates that data are unusable for all purposes. The analyte was analyzed for, but the presence or absence of the analyte has not been verified. Resampling and reanalysis are necessary for verification to confirm or deny the presence of an analyte.
- N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

#### METALS DATA EVALUATION

### 1. Analytical Method:

Samples were prepared and analyzed for ICP metals using the procedures specified in SW-846 Method 6020A.

# 2. Holding Times:

All samples met established holding time criteria of 180 days for ICP metals. No qualifications are placed on the data.

#### 3. Initial Calibration:

ICP initial calibration included a blank and five standards and initial calibration verification results fell within the control limits of 90% to 110% of the true values. No qualifications are placed on the data.

# 4. Continuing Calibration:

All ICP results fell within the control limits of 90% to 110% of the true values. No qualifications are placed on the data.

#### 5. CRDL Standard:

All results for the CRDL standard were within the control limits of 70% to 130% of the true values or the sample results were greater than the CRDL action level. No qualifications are placed on the data.

### 6. Blanks:

#### A. Laboratory Blanks:

A method blank was prepared at the required frequency of every time samples were prepared/digested for each matrix or every 20 samples whichever is greater. Target analytes were not detected in the method and calibration blanks at concentrations that warrant blank action. No qualifications are placed on the data.

#### B. Field Blanks:

No field blank samples were submitted with this analytical package. No qualifications are placed on the data.

### 7. ICP Interference Check:

All results for the interference check sample were within the control limits of 80% to 120% of the true values. No qualifications are placed on the data.

#### 8. Laboratory Control Sample (LCS):

The recoveries for the LCS were within the control limits provided. No qualifications are placed on the data.

# 9. Duplicate Sample Analysis:

# A. Laboratory Duplicate Analysis:

Sample FJD08-02-20181130-12-56 underwent matrix spike/matrix spike duplicate (MS/MSD) analysis for ICP metals for the solid matrix. QC criteria are that the relative percent difference (RPD) values for the duplicate sample analysis are less than 20% for aqueous samples and less than 35% for solid samples. All QC criteria were met. No qualifications are placed on the data.

# B. Field Duplicate Analysis:

No field duplicate samples were submitted with this analytical package. No qualifications are placed on the data.

#### 10. Spiked Sample Analysis:

Sample FJD08-02-20181130-12-56 underwent MS/MSD analysis for ICP metals for the solid matrix. The spike recoveries for the following analytes were outside of the 75%-125% QC recovery limits for analytes whose sample concentration did not exceed the spike concentration by a factor of 4 times or more:

ANALYTE	MATRIX	%R/%R	AFFECTED SAMPLES	QUALIFIER FLAG
Cobalt Lead	Solid	OK/65.9 OK/45.3	All	JL JL

The post digestion spike recoveries were acceptable indicating a possible digestion problem. No further qualifications are placed on the data.

#### 11. ICP Serial Dilution:

Sample FJD08-02-20181130-12-56 underwent serial dilution for the solid matrix for ICP metals. The percent difference (%D) values for serial dilution analysis were within the QC limits of 10% for all analytes whose concentrations were greater than 50 times their method detection limit (MDL). No qualifications are placed on the data.

## 12. Sample Quantitation and Reporting Limits:

Concentrations of all reported analytes were correctly calculated.

Reported concentrations less than the reporting limit (RL) qualified "J" by the laboratory are qualified "JQ" to indicate that the result is less than the RL but greater than the MDL.

Some ICP metals analytes in some samples were analyzed at a 50 or 100-fold dilution. Reporting limits for these analytes in these samples were elevated as a result of the dilutions performed.

#### 13. Laboratory Contact

No laboratory contact was required.

#### 14. Overall Assessment:

The cobalt and lead results in all samples were estimated due to low MSD recoveries.

Reported concentrations less than the RL qualified "J" by the laboratory were qualified "JQ" to indicate that the result is less than the RL but greater than the MDL.

The analytical data is acceptable for use with the qualifications listed above.

Weston Solutions, Inc.

Project:

FJ Doyle RA/TX

Sample ID:

EAS04-20181130-18-56

Collection Date:

30-Nov-2018 12:44

**ANALYTICAL REPORT** 

WorkOrder:HS18120010 Lab ID:HS18120010-01

Matrix:Soil

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL PAHS		Method:S	W8270		Prep:SW3541 / 0	3-Dec-2018	Analyst: GEY
Acenaphthene	0.00072	PER	0.00060	0.0040	mg/Kg-dry	1	03-Dec-2018 15:59
Acenaphthylene	Ü		0.0012	0.0040	mg/Kg-dry	1	03-Dec-2018 15:59
Anthracene	0.0013	439	0.00060	0.0040	mg/Kg-dry	1	03-Dec-2018 15:59
Benz(a)anthracene	0.0031	2	0.0019	0.0040	mg/Kg-dry	1	03-Dec-2018 15:59
Benzo(a)pyrene	0.0020	8	0.0012	0.0040	mg/Kg-dry	1	03-Dec-2018 15:59
Benzo(b)fluoranthene	0.0033	A	0.0014	0.0040	mg/Kg-dry	1	03-Dec-2018 15:59
Benzo(g,h,i)perylene	0.0013	1	0.00084	0.0040	mg/Kg-dry	1	03-Dec-2018 15:59
Benzo(k)fluoranthene	0.0015	<i>A</i>	0.0011	0.0040	mg/Kg-dry	1	03-Dec-2018 15:59
Chrysene	0.0026	الد	0.00096	0.0040	mg/Kg-dry	1	03-Dec-2018 15:59
Dibenz(a,h)anthracene	U		0.0019	0.0040	mg/Kg-dry	1	03-Dec-2018 15:59
Fluoranthene	0.0047		0.0013	0.0040	mg/Kg-dry	1	03-Dec-2018 15:59
Fluorene	U	······································	0.0013	0.0040	mg/Kg-dry	1	03-Dec-2018 15:59
Indeno(1,2,3-cd)pyrene	0.0019	J 30	0.00096	0.0040	mg/Kg-dry	1	03-Dec-2018 15:59
Naphthalene	· U	······································	0.00072	0.0040	mg/Kg-dry	1	03-Dec-2018 15:59
Phenanthrene	0.0051		0.0018	0.0040	mg/Kg-dry	1	03-Dec-2018 15:59
Pyrene	0.0044		0.00072	0.0040	mg/Kg-dry	1	03-Dec-2018 15:59
Surr: 2-Fluorobiphenyl	68.7			43-125	%REC	1	03-Dec-2018 15:59
Surr: 4-Terphenyl-d14	83.4	general Philipson and Marian Managagana	er sentretinen annan er i 2 a vocaterine annaer vertrennen annaterinen annaer vertrennen is vertretat	32-125	%REC	1	03-Dec-2018 15:59
Surr: Nitrobenzene-d5	74.3			37-125	%REC	1	03-Dec-2018 15:59
PCBS BY SW8082A		Method:S	W8082		Prep:SW3541/36	65A / 03-Dec	-2018 Analyst: JLJ
Aroclor 1016	U		0.0050	0.020	Property Control of the Control of t	1	04-Dec-2018 01:24
Aroclor 1221	U		0.0067	0.020	mg/Kg-dry	1	04-Dec-2018 01:24
Aroclor 1232	υ		0.0054	0.020	mg/Kg-dry	1	04-Dec-2018 01:24
Aroclor 1242	U		0.0071	0.020	mg/Kg-dry	1	04-Dec-2018 01:24
Aroclor 1248	U		0.0071	0.020	mg/Kg-dry	1	04-Dec-2018 01:24
Aroclor 1254	U		0.0056	0.020	mg/Kg-dry	1	04-Dec-2018 01:24
Arocior 1260	0.079		0.0048	0.020	mg/Kg-dry	1	04-Dec-2018 01:24
Surr: Decachlorobiphenyl	115			54-143	%REC	1	04-Dec-2018 01:24
Surr: Tetrachloro-m-xylene	104			50-140	%REC	1	04-Dec-2018 01:24
METALS BY SW6020A	Situation and I	Method:S	W6020		Prep:SW3050A /	03-Dec-2018	Analyst: JCJ
Arsenic	7.52		0.0827	0.591	mg/Kg-dry	2000 AMAD 1895-Y 7 17 1900	04-Dec-2018 15:42
Cadmium	0.311	+ 18	0.0319	0.591	mg/Kg-dry		04-Dec-2018 15:42
Cobalt	7.30		0.0177	0.591	mg/Kg-dry		04-Dec-2018 15:42
ron	12,600		2.16	59.1	mg/Kg-dry		04-Dec-2018 15:42
.ead	10.9	JL	0.0154	0.591	mg/Kg-dry		04-Dec-2018 15:42
langanese	1,190		5.08	59.1	mg/Kg-dry	COLORO COMPANION DE PROPERTO DE LA COLORO DE PARTO DE LA COLORO DE PARTO DE LA COLORO DEL COLORO DE LA COLORO DEL LA COLORO DEL LA COLORO DEL LA COLORO DE LA COLORO DEL LA COLORO DE LA CO	04-Dec-2018 19:24
MOISTURE - ASTM D2216		lethod:AST			a - a - 1		
		u.nu			40.00		Analyst: DFF





Client: Project: Weston Solutions, Inc.

FJ Doyle RA/TX

Sample ID:

FJD05-03A-20181130-12-56

Collection Date:

30-Nov-2018 12:34

**ANALYTICAL REPORT** 

WorkOrder:HS18120010 Lab ID:HS18120010-02

Matrix:Soil

ANALYSES	PEGIII T					DILUTION	
	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL PAHS		Method:S	SW8270	The second secon	Prep:SW3541 / 0	3-Dec-2018	Analyst: GEY
Acenaphthene	U		0.00060	0.0040	mg/Kg-dry	1	03-Dec-2018 16:20
Acenaphthylene	U	a. = 1 a +a a a a a a	0.0012	0.0040	mg/Kg-dry	1	03-Dec-2018 16:20
Anthracene	U		0.00060	0.0040	mg/Kg-dry	1	03-Dec-2018 16:20
Benz(a)anthracene	0.0027	پائے انگر	0.0019	0.0040	mg/Kg-d <b>ry</b>	1	03-Dec-2018 16:20
Benzo(a)pyrene	0.0026	POR	0.0012	0.0040	mg/Kg-dry	1	03-Dec-2018 16:20
Benzo(b)fluoranthene	0.0045		0.0014	0.0040	mg/Kg-dry	1	03-Dec-2018 16:20
Benzo(g,h,i)perylene	0.0026	\$JQ	0.00084	0.0040	mg/Kg-dry	1	03-Dec-2018 16:20
Benzo(k)fluoranthene	0.0014	1	0.0011	0.0040	mg/Kg-dry	1	03-Dec-2018 16:20
Chrysene	0.0028	1 L	0.00096	0.0040	mg/Kg-dry	1	03-Dec-2018 16:20
Dibenz(a,h)anthracene	U		0.0019	0.0040	mg/Kg-dry	1	03-Dec-2018 16:20
Fluoranthene	0.0042		0.0013	0.0040	mg/Kg-dry	1	03-Dec-2018 16:20
Fluorene	U	***************************************	0.0013	0.0040	mg/Kg-dry	1	03-Dec-2018 16:20
ndeno(1,2,3-cd)pyrene	0.0021	100	0.00096	0.0040	mg/Kg-dry	1	03-Dec-2018 16:20
Vaphthalene	U		0.00072	0.0040	mg/Kg-dry	1	03-Dec-2018 16:20
Phenanthrene	0.0031	\$ JQ	0.0018	0.0040	mg/Kg-dry	1	03-Dec-2018 16:20
Pyrene	0.0045		0.00072	0.0040	mg/Kg-dry	1	03-Dec-2018 16:20
Surr. 2-Fluorobiphenyl	70.3			43-125	%REC	1	03-Dec-2018 16:20
Surr: 4-Terphenyl-d14	<b>93.4</b>	Academic Commission of the Asset Commission of the Commission of t	de adaptive en	32-125	%REC	1	03-Dec-2018 16:20
Surr: Nitrobenzene-d5	78.1			37-125	%REC	1	03-Dec-2018 16:20
PCBS BY SW8082A	years.	Method:S	W8082	6 (36) — 50 (60) — 40 (60) 77 (70)	Prep:SW3541/36	65A / 03-Dec	-2018 Analyst: JLJ
Aroclor 1016	U	71.7	0.0051	0.020	mg/Kg-dry	######################################	04-Dec-2018 01:41
Aroclor 1221	U		0.0068	0.020	mg/Kg-dry	1	04-Dec-2018 01:41
Aroclor 1232	U		0.0054	0.020	mg/Kg-dry	1	04-Dec-2018 01:41
Aroclor 1242	U		0.0071	0.020	mg/Kg-dry	1	04-Dec-2018 01:41
Aroclor 1248	U		0.0071	0.020	mg/Kg-dry	1	04-Dec-2018 01:41
Aroclor 1254	U		0.0057	0.020	mg/Kg-dry	1	04-Dec-2018 01:41
Aroclor 1260	U		0.0048	0.020	mg/Kg-dry	1	04-Dec-2018 01:41
Surr: Decachlorobiphenyl	112			54-143	%REC	1	04-Dec-2018 01:41
Surr: Tetrachloro-m-xylene	105			50-140	%REC	1	04-Dec-2018 01:41
METALS BY SW6020A	Texas	Method:S	W6020		Prep:SW3050A /	03-Dec-2018	Analyst: JCJ
Arsenic	11.1		0.0814	0.581	mg/Kg-dry		04-Dec-2018 15:44
Sadmium	0.360	470	0.0314	0.581	mg/Kg-dry		04-Dec-2018 15:44
Cobalt	5.93	IL "	0.0174	0.581	mg/Kg-dry		04-Dec-2018 15:44
ron	10,400		2,13	58.1	mg/Kg-dry		04-Dec-2018 15:44
.ead	35.5	ゴレ	0.0151	0.581	mg/Kg-dry		04-Dec-2018 15:44
/anganese	1,100		5.00	58.1	mg/Kg-dry	Management Management of the proper states in the	04-Dec-2018 19:26
NOISTURE - ASTM D2216	N	lethod:AST		No.			Analyst: DFF
Percent Moisture	17.6		0.0100	0.0100	wt%	1	03-Dec-2018 10:56





Weston Solutions, Inc.

Project:

FJ Doyle RA/TX

Sample ID: Collection Date:

30-Nov-2018 12:38

FJD05-04A-20181130-18-56

**ANALYTICAL REPORT** 

WorkOrder:HS18120010 Lab ID:HS18120010-03

Matrix:Soil

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL PAHS		Method:S	W8270	1923 T. C.	Prep:SW3541 / 0	3-Dec-2018	Analyst: GEY
Acenaphthene	U		0.00061	0.0040	mg/Kg-dry	1	03-Dec-2018 16:40
Acenaphthylene	U	enlanderene#ff en e e e e f e eff e den ennisch	0.0012	0.0040	mg/Kg-dry	1	03-Dec-2018 16:40
Anthracene	U		0.00061	0.0040	mg/Kg-dry	1	03-Dec-2018 16:40
Benz(a)anthracene	U		0.0019	0.0040	mg/Kg-dry	1	03-Dec-2018 16:40
Benzo(a)pyrene	0.0014	<b>₹</b>	0.0012	0.0040	mg/Kg-dry	1	03-Dec-2018 16:40
Benzo(b)fluoranthene	0.0026	۱ سر	0.0015	0.0040	mg/Kg-dry	1	03-Dec-2018 16:40
Benzo(g,h,i)perylene	0.0018	الر	0.00085	0.0040	mg/Kg-dry	1	03-Dec-2018 16:40
Benzo(k)fluoranthene	0.0011	اسلا	0.0011	0.0040	mg/Kg-dry	1	03-Dec-2018 16:40
Chrysene	0.0013	یل مد	0.00097	0.0040	mg/Kg-dry	1	03-Dec-2018 16:40
Dibenz(a,h)anthracene	U		0.0019	0.0040	mg/Kg-dry	1	03-Dec-2018 16:40
Fluoranthene	0.0014	436	0.0013	0.0040	mg/Kg-dry	1	03-Dec-2018 16:40
Fluorene	U		0.0013	0.0040	mg/Kg-dry	1	03-Dec-2018 16:40
Indeno(1,2,3-cd)pyrene	0.0021	+310	0.00097	0.0040	mg/Kg-dry	1	03-Dec-2018 16:40
Naphthalene	U		0.00073	0.0040	mg/Kg-dry	1	03-Dec-2018 16:40
Phenanthrene	U		0.0018	0.0040	mg/Kg-dry	1	03-Dec-2018 16:40
Pyrene	0.0016	如	0.00073	0.0040	mg/Kg-dry	1	03-Dec-2018 16:40
Surr: 2-Fluorobiphenyl	68.1	-4		43-125	%REC	1	03-Dec-2018 16:40
Surr: 4-Terphenyl-d14	93.2	ana Carlo dili Commissione (n. 1800) (1. gamenana an 10.	······································	32-125	%REC	1	03-Dec-2018 16:40
Surr: Nitrobenzene-d5	73.1			37-125	%REC	1	03-Dec-2018 16:40
PCBS BY SW8082A	initi com di sala	Method:S	SW8082	F14	Prep:SW3541/36	65A / 03-Dec	-2018 Analyst: JLJ
Aroclor 1016	U		0.0051	0.020		1	04-Dec-2018 01:57
Aroclor 1221	Ū		0.0068	0.020	mg/Kg-dry	1	04-Dec-2018 01:57
Aroclor 1232	U		0.0055	0.020	mg/Kg-dry	1	04-Dec-2018 01:57
Aroclor 1242	U		0.0072	0.020	mg/Kg-dry	1	04-Dec-2018 01:57
Aroclor 1248	U		0.0072	0.020	mg/Kg-dry	1	04-Dec-2018 01:57
Aroclor 1254	U		0.0057	0.020	mg/Kg-dry	1	04-Dec-2018 01:57
Aroclor 1260	U		0.0049	0.020	mg/Kg-dry	1	04-Dec-2018 01:57
Surr: Decachlorobiphenyl	110			54-143	%REC	1	04-Dec-2018 01:57
Surr: Tetrachloro-m-xylene	88. <i>4</i>			<i>50-140</i>	%REC	1	04-Dec-2018 01:5
METALS BY SW6020A		Method:5	SW6020	46-	Prep:SW3050A /	03-Dec-2018	Analyst: JCJ
Arsenic	9.62		0.0812	0.580	mg/Kg-dry		04-Dec-2018 15:46
Cadmium	0.369	430	0.0313	0.580	mg/Kg-dry		04-Dec-2018 15:46
Cobalt	7.16	IL,	0.0174	0.580	mg/Kg-dry		04-Dec-2018 15:46
Iron	13,400	······································	2,12	58.0	mg/Kg-dry	secult de transcription	04-Dec-2018 15:46
Lead	17.8	ゴレ	0.0151	0.580	mg/Kg-dry		04-Dec-2018 15:46
Manganese	1,080		4.99	58.0	mg/Kg-dry		04-Dec-2018 19:28
MOISTURE - ASTM D2216	*****	Method:AS				- B	Analyst: DFF
Percent Moisture	18.4		0.0100	0.0100	wt%	1	03-Dec-2018 10:56





Client: Project: Weston Solutions, Inc.

FJ Doyle RA/TX

Sample ID:

FJD08-02-20181130-12-56

Collection Date:

30-Nov-2018 14:56

**ANALYTICAL REPORT** 

WorkOrder:HS18120010 Lab ID:HS18120010-04

Matrix:Soil

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL PAHS		Method:S	SW8270		Prep:SW3541 / 0	3-Dec-2018	Analyst GEY
Acenaphthene	U		0.00065	0.0043	mg/Kg-dry	1	03-Dec-2018 17:00
Acenaphthylene	U		0.0013	0.0043	mg/Kg-dry	1	03-Dec-2018 17:00
Anthracene	U		0.00065	0.0043	mg/Kg-dry	1	03-Dec-2018 17:00
Benz(a)anthracene	0.0024	130	0.0021	0.0043	mg/Kg-dry	1	03-Dec-2018 17:00
Benzo(a)pyrene	0.0028	کل مر	0.0013	0.0043	mg/Kg-dry	1	03-Dec-2018 17:00
Benzo(b)fluoranthene	0.0060		0.0016	0.0043	mg/Kg-dry	1	03-Dec-2018 17:00
Benzo(g,h,i)perylene	0.0057		0.00092	0.0043	mg/Kg-dry	1	03-Dec-2018 17:00
Benzo(k)fluoranthene	0.0036	a ja	0.0012	0.0043	mg/Kg-dry	1	03-Dec-2018 17:00
Chrysene	0.0021	4	0.0010	0.0043	mg/Kg-dry	1	03-Dec-2018 17:00
Dibenz(a,h)anthracene	0.0036	46	0.0021	0.0043	mg/Kg-dry	1	03-Dec-2018 17:00
Fluoranthene	U		0.0014	0.0043	mg/Kg-dry	1	03-Dec-2018 17:00
Fluorene	U		0.0014	0.0043	mg/Kg-dry	1	03-Dec-2018 17:00
indeno(1,2,3-cd)pyrene	0.0061		0.0010	0.0043	mg/Kg-dry	1	03-Dec-2018 17:00
Naphthalene	U		0.00079	0.0043	mg/Kg-dry	1	03-Dec-2018 17:00
Phenanthrene	U		0.0020	0.0043	mg/Kg-dry	1	.03-Dec-2018 17:00
Pyrene	0.0017	PT.	0.00079	0.0043	mg/Kg-dry	1	03-Dec-2018 17:00
Surr: 2-Fluorobiphenyl	71.0	`		43-125	%REC	1	03-Dec-2018 17:00
Surr: 4-Terphenyl-d14	94.2	and a second		32-125	%REC	1	03-Dec-2018 17:00
Surr: Nitrobenzene-d5	75.5			37-125	%REC	1	03-Dec-2018 17:00
PCBS BY SW8082A	10 (A) (A) (B) (B) (B) (B) (B) (B) (B) (B) (B) (B	Method:S	SW8082		Prep:SW3541/36	65A / 03-Dec	-2018 Analyst: JLJ
Aroclor 1016	U	-	0.0055	0.022	mg/Kg-dry	1	04-Dec-2018 00:33
Aroclor 1221	U		0.0074	0.022	mg/Kg-dry	1	04-Dec-2018 00:33
Aroclor 1232	U		0.0059	0.022	mg/Kg-dry	1	04-Dec-2018 00:33
Aroclor 1242	U		0.0078	0.022	mg/Kg-dry	1	04-Dec-2018 00:33
Aroclor 1248	U		0.0078	0.022	mg/Kg-dry	1	04-Dec-2018 00:33
Aroclor 1254	U		0.0062	0.022	mg/Kg-dry	1	04-Dec-2018 00:33
Aroclor 1260	U		0.0053	0.022	mg/Kg-dry	1	04-Dec-2018 00:33
Surr: Decachlorobiphenyl	96.0			54-143	%REC	1	04-Dec-2018 00:33
Surr: Tetrachloro-m-xylene	88.0			50-140	%REC	1	04-Dec-2018 00:33
METALS BY SW6020A	100	Method:	SW6020		Prep:SW3050A	03-Dec-2018	Analyst: JCJ
Arsenic	7.30		0.0898	0.641	mg/Kg-dry	1	04-Dec-2018 15:48
Cadmium	0.316	4710	0.0346	0.641	mg/Kg-dry	1	04-Dec-2018 15:48
Cobalt	22.4	すし	0.0192	0.641	mg/Kg-dry	1	04-Dec-2018 15:48
Iron	28,300		235	6410	mg/Kg-dry	100	04-Dec-2018 19:04
Lead	33.8	むし	0.0167	0.641	mg/Kg-dry	1.1	04-Dec-2018 15:48
Manganese	1,740	entered Manager and all the second test them the second	5.51	64.1	mg/Kg-dry	100	04-Dec-2018 19:04
MOISTURE - ASTM D2216	e at a l	Method:AS	TM D2216				Analyst: DFF
Percent Moisture	24.6		0.0100	0.0100	wt%	1	03-Dec-2018 10:56





Weston Solutions, Inc.

FJD09-01-20181130-06-56

Project: Sample ID: FJ Doyle RA/TX

Collection Date:

30-Nov-2018 12:54

**ANALYTICAL REPORT** 

WorkOrder:HS18120010 Lab ID:HS18120010-05

Matrix:Soil

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
OW-LEVEL PAHS	2 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	Method:SW	8270		Prep:SW3541 / 0	3-Dec-2018	Analyst: GE
Acenaphthene	U	0.	00063	0.0041	mg/Kg-dry	1	03-Dec-2018 18:0
Acenaphthylene	U	. (	0.0013	0.0041	mg/Kg-dry	1	03-Dec-2018 18:0
Anthracene	0.0012	JJQ 0.	.00063	0.0041	mg/Kg-dry	1	03-Dec-2018 18:0
Benz(a)anthracene	0.0063		0.0020	0.0041	mg/Kg-dry	1	03-Dec-2018 18:0
Benzo(a)pyrene	0.0066	(	0.0013	0.0041	mg/Kg-dry	1	03-Dec-2018 18:0
Benzo(b)fluoranthene	0.012		0.0015	0.0041	mg/Kg-dry	1	03-Dec-2018 18:0
Benzo(g,h,i)perylene	0.0060	0.	.00088	0.0041	mg/Kg-dry	1	03-Dec-2018 18:0
Benzo(k)fluoranthene	0.0050		0.0011	0.0041	mg/Kg-dry	1	03-Dec-2018 18:0
Chrysene	0.0080	4	0.0010	0.0041	mg/Kg-dry	1	03-Dec-2018 18:0
Dibenz(a,h)anthracene	U		0.0020	0.0041	mg/Kg-dry	1	03-Dec-2018 18:0
Fluoranthene	0.0093	4	0.0014	0.0041	mg/Kg-dry	1	03-Dec-2018 18:0
luorene	U		0.0014	0.0041	mg/Kg-dry	1	03-Dec-2018 18:0
ndeno(1,2,3-cd)pyrene	0.0053	ĺ	0.0010	0.0041	mg/Kg-dry	1	03-Dec-2018 18:0
Naphthalene	U	0	.00075	0.0041	mg/Kg-dry	1	03-Dec-2018 18:0
Phenanthrene	0.0036	\$IQ	0.0019	0.0041	mg/Kg-dry	1	03-Dec-2018 18:0
Pyrene	0.011	0	.00075	0.0041	mg/Kg-dry	1	03-Dec-2018 18:0
Surr: 2-Fluorobiphenyl	75.2			43-125	%REC	1	03-Dec-2018 18:0
Surr: 4-Terphenyl-d14	86.7	~ ~~~	gggg weng ag	32-125	%REC	1	03-Dec-2018 18:0
Surr: Nitrobenzene-d5	75.9			37-125	%REC	1	03-Dec-2018 18:0
PCBS BY SW8082A		Method:SW	8082		Prep:SW3541/36	65A / 03-Dec	-2018 Analyst JL.
Aroclor 1016	U		0.0053	0.021	mg/Kg-dry	1	04-Dec-2018 02:1
Aroclor 1221	U		0.0071	0.021	mg/Kg-dry	1	04-Dec-2018 02:1
Aroclor 1232	U		0.0057	0.021	mg/Kg-dry	1	04-Dec-2018 02:1
Aroclor 1242	U		0.0074	0.021	mg/Kg-dry	1	04-Dec-2018 02:1
Aroclor 1248	U		0.0074	0.021	mg/Kg-dry	1	04-Dec-2018 02:1
Aroclor 1254	U		0.0059	0.021	mg/Kg-dry	1	04-Dec-2018 02:1
Aroclor 1260	U		0.0050	0.021	mg/Kg-dry	1	04-Dec-2018 02:1
Surr: Decachlorobiphenyl	125			54-143	%REC	1	04-Dec-2018 02:1
Surr: Tetrachloro-m-xylene	116			50-140	%REC	1	04-Dec-2018 02::
METALS BY SW6020A	\$ 107A	Method:SV	/6020		Prep:SW3050A	03-Dec-201	3 Analyst: JC
Arsenic	7.13		0.0845	0.604	mg/Kg-dry	1	04-Dec-2018 16:3
Cadmium	0.412	4 <u>7</u> 0	0.0326	0.604	mg/Kg-dry	1	04-Dec-2018 16:3
Cobalt	14.7	•	0.0181	0.604	mg/Kg-dry	1	04-Dec-2018 16:0
Iron	27,100		221	6040	mg/Kg-dry	100	04-Dec-2018 19:3
Lead	37.0	JL	0.0157	0.604	mg/Kg-dry	1	04-Dec-2018 16:3
Manganese	1,540		5.19	60.4	mg/Kg-dry	100	04-Dec-2018 19:3
MOISTURE - ASTM D2216		Method:ASTI	/ D2216	The state of the s			Analyst: DF
Percent Moisture	21.2		0.0100	0.0100	wt%	1	03-Dec-2018 10:





Client: Project: Weston Solutions, Inc.

FJ Doyle RA/TX

Sample ID:

FJD02-08-20181130-18-56

Collection Date:

30-Nov-2018 12:48

**ANALYTICAL REPORT** 

WorkOrder:HS18120010 Lab ID:HS18120010-06

Matrix:Soil

ANALYSES	RESULT	QUAL I	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL PAHS		Method:SW82	70		Prep:SW3541 / 0	3-Dec-2018	Analyst: GEY
Acenaphthene	U	0.00	062	0.0041	mg/Kg-dry	1	03-Dec-2018 17:41
Acenaphthylene	U	0.0	012	0.0041	mg/Kg-dry	1	03-Dec-2018 17:41
Anthracene	U	0.00	062	0.0041	mg/Kg-dry	1	03-Dec-2018 17:41
Benz(a)anthracene	U	0.0	020	0.0041	mg/Kg-dry	1	03-Dec-2018 17:41
Benzo(a)pyrene	U	0.0	012	0.0041	mg/Kg-dry	1	03-Dec-2018 17:41
Benzo(b)fluoranthene	U	0.0	015	0.0041	mg/Kg-dry	1	03-Dec-2018 17:41
Benzo(g,h,i)perylene	U	0.00	087	0.0041	mg/Kg-dry	1	03-Dec-2018 17:41
Benzo(k)fluoranthene	U	0.0	011	0.0041	mg/Kg-dry	1	03-Dec-2018 17:41
Chrysene	U	0.00	0099	0.0041	mg/Kg-dry	1	03-Dec-2018 17:41
Dibenz(a,h)anthracene	U	0.0	020	0.0041	mg/Kg-dry	1	03-Dec-2018 17:41
Fluoranthene	U	0.0	014	0.0041	mg/Kg-dry	1	03-Dec-2018 17:41
Fluorene	U	0.0	014	0.0041	mg/Kg-dry	1	03-Dec-2018 17:41
Indeno(1,2,3-cd)pyrene	U	0.00	099	0.0041	mg/Kg-dry	1	03-Dec-2018 17:41
Naphthalene	U	0.00	074	0.0041	mg/Kg-dry	1	03-Dec-2018 17:41
Phenanthrene	U	0.0	019	0.0041	mg/Kg-dry	1	03-Dec-2018 17:41
Pyrene	0.00084	J. J. 0.00	074	0.0041	mg/Kg-dry	1	03-Dec-2018 17:41
Surr: 2-Fluorobiphenyl	62.1	•		43-125	%REC	1	03-Dec-2018 17:41
Surr: 4-Terphenyl-d14	92.7		***************************************	32-125	%REC	1	03-Dec-2018 17:41
Surr: Nitrobenzene-d5	67.7			37-125	%REC	1	03-Dec-2018 17:41
PCBS BY SW8082A		Method:SW80	82		Prep:SW3541/36	65A / 03-Dec	-2018 Analyst: JLJ
Aroclor 1016	U	0.0	052	0.021	mg/Kg-dry	1	04-Dec-2018 02:31
Aroclor 1221	U	0.0	069	0.021	mg/Kg-dry	1	04-Dec-2018 02:31
Aroclor 1232	U	0.0	0056	0.021	mg/Kg-dry	1	04-Dec-2018 02:31
Aroclor 1242	U	0.0	073	0.021	mg/Kg-dry	1	04-Dec-2018 02:31
Aroclor 1248	U	0.0	073	0.021	mg/Kg-dry	1	04-Dec-2018 02:31
Aroclor 1254	U	0.0	0058	0.021	mg/Kg-dry	1	04-Dec-2018 02:31
Aroclor 1260	U	0.0	0049	0.021	mg/Kg-dry	1	04-Dec-2018 02:31
Surr: Decachlorobiphenyl	122			54-143	%REC	1	04-Dec-2018 02:31
Surr: Tetrachloro-m-xylene	112			50-140	%REC	1	04-Dec-2018 02:31
METALS BY SW6020A	Giran a	Method:SW60	20		Prep:SW3050A	03-Dec-2018	Analyst: JCJ
Arsenic	9.48	0.0	0844	0.603	mg/Kg-dry	1	04-Dec-2018 16:34
Cadmium	0.334	<i>বতা</i> ত 0.0	0326	0.603	mg/Kg-dry	1	04-Dec-2018 16:34
Cobalt	5.62	•	0181	0.603	mg/Kg-dry	1	04-Dec-2018 16:34
lron .	10,800		2.21	60,3	mg/Kg-dry	1	04-Dec-2018 16:34
Lead	6.88	JL 0.0	0157	0.603	mg/Kg-dry	1	04-Dec-2018 16:34
Manganese	927		2.59	30.1	mg/Kg-dry	50	04-Dec-2018 19:33
MOISTURE - ASTM D2216		Method:ASTM D	2216	# 100 mm	VALUE OF THE PARTY		Analyst: DFF
Percent Moisture	19.8		D100	0.0100	wt%	1	03-Dec-2018 10:56





# DATA QUALITY ASSURANCE REVIEW

SITE NAME Frank J. Doy	le Salvage Removal Actio	n	
WORK ORDER NUMBER	20600.012.001.1175.01	TDD NUMBER	0001/18-175
PROJECT NUMBER		SDG NUMBER	HS18120093
Weston Solutions, Inc. (WES 20600.012.001.1175.01; SDG No. analyzed for Polychlorinated Biphebelow.	HS18120093; Frank J. Do	yle Salvage Remov	
	SAMPLE NUM	BERS	
DRA10-20181203-16-56	DRA11-20181203-12-	56 EAS	505-20181203-18-56
FJD02-06-20181203-24-56	FJD03-03-20181203-2	4-56 FJD	08-03-20181203-14-56
FJD08-04-20181203-14-56	FJD08-04-20181203-1	4-57	
-	-		
This data package was validated to USEPA National Functional Guide National Functional Guidelines f	elines for Organic Superfu	nd Methods Data R	eview (January, 2017), USEPA
Laboratory Program National Functional Funct	nctional Guidelines for F Quality Control Guidance g Times, Blanks, and V	High Resolution Sup for Removal Activi	perfund Methods Data Revievities (September, 2011), and/o
PEVIEWER Gloria I Swi	talski	DATE	January 24, 2010

### **Data Qualifiers**

Data Qualifier Definitions were supplied by the Office of Solid Waste and Emergency Response (September 1989) and are included in the Functional Guidelines. Data qualifiers may be combined (UJ, QJ) with the corresponding combination of meanings. Additional qualifiers may be added to provide additional, more specific information (JL, UB, QJK), modifying the meaning of the primary qualifier. Additional qualifiers utilized by WESTON are H, L, K, B, and Q.

U - The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation or detection limit, which has been adjusted for sample weight/sample volume, extraction volume, percent solids, sample dilution or other analysis specific parameters.

An additional qualifier, "B", may be appended to indicate that while the analyte was detected in the sample, the presence of the analyte may be attributable to blank contamination and the analyte is therefore considered undetected with the sample detection or quantitation limit for the analyte being elevated.

J - The analyte was analyzed for, but the associated numerical value may not be consistent with the amount actually present in the environmental sample or may not be consistent with the sample detection or quantitation limit. The value is an estimated quantity. The data should be seriously considered for decision-making and are usable for many purposes.

An additional qualifier will be appended to the "J" qualifier that indicates the bias in the reported results:

- L Low bias
- H High bias
- K Unknown bias
- Q The reported concentration is less than the sample quantitation limit for the specific analyte in the sample.

The L and H qualifier will only be employed when a single qualification is required. When more than one quality control parameter affects the analytical result and a conflict results in assigning a bias, the result will be flagged JK.

- R Quality Control indicates that data are unusable for all purposes. The analyte was analyzed for, but the presence or absence of the analyte has not been verified. Resampling and reanalysis are necessary for verification to confirm or deny the presence of an analyte.
- N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

#### PCB FRACTION EVALUATION

## 1. Analytical Method:

Samples were prepared and analyzed for PCBs using the procedures specified in SW-846 Method 8082A.

#### 2. Holding Time:

The samples were received within the recommended ≤6°C NFG limit. All samples were extracted within the required holding time of less than 1 year after collection. Analysis of the samples was conducted within 40 days of extraction. No qualifications are placed on the data.

### 3. Initial Calibration:

The correlation coefficient of the multipoint initial calibration was greater than or equal to 0.995 or the percent relative standard deviation (%RSD) was less than or equal to 20%. No qualifications are placed on the data.

### 4. Continuing Calibration:

The continuing calibration check was analyzed at the required frequency and met recovery requirements of 75%-125% [percent difference (%D) was less than 25%]. No qualifications are placed on the data.

#### 5. Blanks:

#### A. Laboratory Blanks:

A method blank was prepared at the required frequency of every time samples were extracted for each matrix and concentration or every 20 samples whichever is greater. No target analytes were detected in the method blanks at concentrations that warrant blank action. No qualifications are placed on the data.

## B. Field Blanks:

No field blank samples were submitted with this analytical package. No qualifications are placed on the data.

### 6. Surrogates:

All recoveries of the surrogates were within the control limits provided. No qualifications are placed on the data.

# 7. Matrix Spikes/Matrix Spike Duplicates (MS/MSD):

Sample FJD02-06-20181203-24-56 underwent MS/MSD analysis for the solid matrix. Recoveries of all spiked analytes were within the control limits provided. No qualifications are placed on the data.

### 8. Duplicates:

# A. Laboratory Duplicate Analysis:

Sample FJD02-06-20181203-24-56 underwent MS/MSD analysis for the solid matrix. QC criteria are that the relative percent difference (RPD) values for the duplicate sample analysis are less than 20% for aqueous samples and less than 35% for solid samples. All QC criteria were met. No qualifications are placed on the data.

## B. Field Duplicate Analysis:

The following sample pair was submitted as field duplicates for the solid matrix: FJD08-04-20181203-14-56/FJD08-04-20181203-14-57. QC criteria are that the RPD values for the field duplicate sample analysis be less than 30% for aqueous samples and less than 50% for solid samples for concentrations greater than five times the reporting limit (RL). For sample concentrations less than five times the RL, the QC criteria are that the absolute difference between the samples is less than two times the RL for aqueous samples or less than 3.5 times the RL for the solid matrix. All QC criteria were met. No qualifications are placed on the data.

## 9. Laboratory Control Sample (LCS):

The laboratory analyzed an LCS and recoveries were within the control limits provided. No qualifications are placed on the data.

## 10. Target Compound Identification, Quantitation, and Reporting Limits:

Concentrations of all reported compounds were correctly calculated.

The %D between the column results were within the acceptance limits (≤25). No qualifications are placed on the data.

Aroclor 1260 in some samples was analyzed at a 2 or 5-fold dilution. Reporting limits for Aroclor 1260 in these samples was elevated as a result of the dilutions performed.

## 11. Laboratory Contact:

No laboratory contact was required.

## 12. Overall Assessment:

The analytical data is acceptable for use without qualification.

# DATA QUALITY ASSURANCE REVIEW

SITE NAME Frank J. Doy	le Salvage Removal Actio	n	
WORK ORDER NUMBER	20600.012.001.1175.01	TDD NUMBER	0001/18-175
PROJECT NUMBER		SDG NUMBER	HS18120093
Weston Solutions, Inc. (WES' 20600.012.001.1175.01; SDG No. analyzed for Polynuclear Aromatic below.	HS18120093; Frank J. Do	oyle Salvage Remov	
	SAMPLE NUM	BERS	
DRA10-20181203-16-56	DRA11-20181203-12-	56 EAS	505-20181203-18-56
FJD02-06-20181203-24-56	FJD03-03-20181203-2	4-56 FJD	08-03-20181203-14-56
FJD08-04-20181203-14-56	FJD08-04-20181203-1	4-57	
This data package was validated to USEPA National Functional Guidelines of Laboratory Program National Fu (April, 2016), Quality Assurance/Qualifications are listed in the follows	elines for Organic Superfu for Inorganic Superfund nctional Guidelines for H Quality Control Guidance g Times, Blanks, and V	and Methods Data R Data Review (Janu High Resolution Sup for Removal Activi	eview (January, 2017), USEPA pary, 2017), USEPA Contrac perfund Methods Data Review ties (September, 2011), and/o
REVIEWER Gloria J. Swit	talski	DATE	January 24, 2019

#### **Data Qualifiers**

Data Qualifier Definitions were supplied by the Office of Solid Waste and Emergency Response (September 1989) and are included in the Functional Guidelines. Data qualifiers may be combined (UJ, QJ) with the corresponding combination of meanings. Additional qualifiers may be added to provide additional, more specific information (JL, UB, QJK), modifying the meaning of the primary qualifier. Additional qualifiers utilized by WESTON are H, L, K, B, and Q.

U - The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation or detection limit, which has been adjusted for sample weight/sample volume, extraction volume, percent solids, sample dilution or other analysis specific parameters.

An additional qualifier, "B", may be appended to indicate that while the analyte was detected in the sample, the presence of the analyte may be attributable to blank contamination and the analyte is therefore considered undetected with the sample detection or quantitation limit for the analyte being elevated.

J - The analyte was analyzed for, but the associated numerical value may not be consistent with the amount actually present in the environmental sample or may not be consistent with the sample detection or quantitation limit. The value is an estimated quantity. The data should be seriously considered for decision-making and are usable for many purposes.

An additional qualifier will be appended to the "J" qualifier that indicates the bias in the reported results:

- L Low bias
- H High bias
- K Unknown bias
- Q The reported concentration is less than the sample quantitation limit for the specific analyte in the sample.

The L and H qualifier will only be employed when a single qualification is required. When more than one quality control parameter affects the analytical result and a conflict results in assigning a bias, the result will be flagged JK.

- R Quality Control indicates that data are unusable for all purposes. The analyte was analyzed for, but the presence or absence of the analyte has not been verified. Resampling and reanalysis are necessary for verification to confirm or deny the presence of an analyte.
- N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

#### PAH FRACTION EVALUATION

## 1. Analytical Method:

Samples were prepared and analyzed using the procedures specified in **SW-846 Method 8270D selective ion monitoring (SIM).** 

## 2. Holding Time:

The samples were received within the recommended  $\leq$ 6°C NFG limit. All samples were extracted within the required holding time of less than 7 days for waters and less than 14 days for solids/wastes after collection. Analysis of the samples was conducted within 40 days of extraction. No qualifications are placed on the data.

## 3. Tuning/Performance:

DFTPP tuning of the mass spectrometer(s) was conducted at the required frequency and results were within the required criteria. No qualifications are placed on the data.

#### 4. Initial Calibration:

All individual relative response factors (RRFs) and average RRFs for the initial calibration (IC) were greater than the compound dependent (see Table 34 of National Functional Guidelines) control limits. All percent relative standard deviations (%RSDs) were less than the compound dependent (see Table 34 of National Functional Guidelines) control limits or the correlation coefficient was > 0.990. No qualifications are placed on the data.

## 5. Continuing Calibration:

All individual RRFs for the initial calibration verification (ICV) and continuing calibration (CC) standards were greater than the compound dependent (see Table 34 of National Functional Guidelines) control limits. All percent differences (%Ds) were less than the compound dependent (see Table 34 of National Functional Guidelines) control limits. No qualifications are placed on the data.

#### 6. Blanks:

## A. Laboratory Blanks:

A method blank was prepared at the required frequency of every time samples were extracted for each matrix and concentration or every 20 samples whichever is greater. Target analytes were not detected in the method at concentrations that warrant blank action. No qualifications are placed on the data.

#### B Field Blanks:

No field blank samples were submitted with this analytical package. No qualifications are placed on the data.

### 7. System Monitoring Compounds (SMC):

All recoveries of the system monitoring compounds (surrogates) were within the control limits provided. No qualifications are placed on the data.

## 8. Duplicates:

## A. Laboratory Duplicate Analysis:

Sample FJD02-06-20181203-24-56 underwent matrix spike/matrix spike duplicate (MS/MSD) analysis for the solid matrix. QC criteria are that the relative percent difference (RPD) values for the duplicate sample analysis are less than 20% for aqueous samples and less than 35% for solid samples. All QC criteria were met. No qualifications are placed on the data.

## B. Field Duplicate Analysis:

The following sample pair was submitted as field duplicates for the solid matrix: FJD08-04-20181203-14-56/FJD08-04-20181203-14-57. QC criteria are that the RPD values for the field duplicate sample analysis be less than 30% for aqueous samples and less than 50% for solid samples for concentrations greater than five times the reporting limit (RL). For sample concentrations less than five times the RL, the QC criteria are that the absolute difference between the samples is less than two times the RL for aqueous samples or less than 3.5 times the RL for the solid matrix. All QC criteria were met. No qualifications are placed on the data.

### 9. Matrix Spike/Matrix Spike Duplicate:

Sample FJD02-06-20181203-24-56 underwent MS/MSD analysis for the solid matrix. Recoveries of all spiked analytes were within the control limits provided in both the matrix spike and matrix spike duplicate. No qualifications are placed on the data.

#### 10. Internal Standards:

Areas of the six internal standards were within the control limits of a factor of 2 (-50% to +100%) and retention times were within 30 seconds from the associated 12 hour calibration standard. No qualifications are placed on the data.

### 11. Laboratory Control Sample (LCS):

The laboratory analyzed an LCS and recoveries were within the control limits provided. No qualifications are placed on the data.

#### 12. Target Compound Identification:

All target compounds reported by the laboratory met identification criteria of relative retention times (RRT) within 0.06 RRT units of the 12 hour standard and that all ions present in the standard mass spectrum were present in the sample mass spectrum and the abundance of these ions agreed within  $\pm$  20% of the standard. No qualifications are placed on the data.

### 13. Target Compound Quantitation and Reporting Limits:

Concentrations of all reported compounds were correctly calculated.

Reported concentrations less than the RL qualified "J" by the laboratory are qualified "JQ" to indicate that the result is less than the RL but greater than the method detection limit (MDL).

# 14. Laboratory Contact:

No laboratory contact was required.

# 15. Overall Assessment

Reported concentrations less than the RL qualified "J" by the laboratory were qualified "JQ" to indicate that the result is less than the RL but greater than the MDL.

The analytical data is acceptable for use with the qualifications listed above.

# DATA QUALITY ASSURANCE REVIEW

SITE NAME Fr	ank J. Doyle	Salvage Removal Action	n			
WORK ORDER N	UMBER _	20600.012.001.1175.01	TDD NUMB	ER 00	01/18-175	
PROJECT NUMBE	ER		SDG NUMBER		HS18120093	
20600.012.001.1175.01	; SDG No. H	ON®) has completed IS18120093; Frank J. Do Pb, & Mn) by ALS Envi	yle Salvage R	Removal Ac	ction. Eight sam	ples were
		SAMPLE NUM	BERS			
DRA10-20181203-16-56	5	DRA11-20181203-12-5	56	EAS05-20	181203-18-56	
FJD02-06-20181203-24-	-56	FJD03-03-20181203-24	1-56	FJD08-03-	-20181203-14-56	
FJD08-04-20181203-14-	-56	FJD08-04-20181203-14	1-57			
USEPA National Functional G National Functional G Laboratory Program N (April, 2016), Quality A	ional Guideli Guidelines for Iational Fund Assurance/Qu for Holding	determine if Quality Conines for Organic Superfular Inorganic Superfund actional Guidelines for Huality Control Guidance Times, Blanks, and Voing discussion.	nd Methods D Data Review Iigh Resolutio for Removal A	ata Review (January, n Superfur Activities (	y (January, 2017) 2017), USEPA and Methods Dat September, 2011	), USEPA Contract a Review 1), and/or
REVIEWER GI	loria I Swita	lski	DA	TE J	anuary 29, 2019	ļ

## **Data Qualifiers**

Data Qualifier Definitions were supplied by the Office of Solid Waste and Emergency Response (September 1989) and are included in the Functional Guidelines. Data qualifiers may be combined (UJ, QJ) with the corresponding combination of meanings. Additional qualifiers may be added to provide additional, more specific information (JL, UB, QJK), modifying the meaning of the primary qualifier. Additional qualifiers utilized by WESTON are H, L, K, B, and Q.

U - The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation or detection limit, which has been adjusted for sample weight/sample volume, extraction volume, percent solids, sample dilution or other analysis specific parameters.

An additional qualifier, "B", may be appended to indicate that while the analyte was detected in the sample, the presence of the analyte may be attributable to blank contamination and the analyte is therefore considered undetected with the sample detection or quantitation limit for the analyte being elevated.

J - The analyte was analyzed for, but the associated numerical value may not be consistent with the amount actually present in the environmental sample or may not be consistent with the sample detection or quantitation limit. The value is an estimated quantity. The data should be seriously considered for decision-making and are usable for many purposes.

An additional qualifier will be appended to the "J" qualifier that indicates the bias in the reported results:

- L Low bias
- H High bias
- K Unknown bias
- Q The reported concentration is less than the sample quantitation limit for the specific analyte in the sample.

The L and H qualifier will only be employed when a single qualification is required. When more than one quality control parameter affects the analytical result and a conflict results in assigning a bias, the result will be flagged JK.

- R Quality Control indicates that data are unusable for all purposes. The analyte was analyzed for, but the presence or absence of the analyte has not been verified. Resampling and reanalysis are necessary for verification to confirm or deny the presence of an analyte.
- N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

#### METALS DATA EVALUATION

#### 1. Analytical Method:

Samples were prepared and analyzed for ICP metals using the procedures specified in SW-846 Method 6020A.

## 2. Holding Times:

All samples met established holding time criteria of 180 days for ICP metals. No qualifications are placed on the data.

#### 3. Initial Calibration:

ICP initial calibration included a blank and five standards and initial calibration verification results fell within the control limits of 90% to 110% of the true values. No qualifications are placed on the data.

## 4. Continuing Calibration:

All ICP results fell within the control limits of 90% to 110% of the true values. No qualifications are placed on the data.

#### 5. CRDL Standard:

All results for the CRDL standard were within the control limits of 70% to 130% of the true values or the sample results were greater than the CRDL action level. No qualifications are placed on the data.

#### 6. Blanks:

#### A. Laboratory Blanks:

A method blank was prepared at the required frequency of every time samples were prepared/digested for each matrix or every 20 samples whichever is greater. Target analytes were not detected in the method and calibration blanks at concentrations that warrant blank action. No qualifications are placed on the data.

#### B. Field Blanks:

No field blank samples were submitted with this analytical package. No qualifications are placed on the data.

#### 7. ICP Interference Check:

All results for the interference check sample were within the control limits of 80% to 120% of the true values. No qualifications are placed on the data.

#### 8. Laboratory Control Sample (LCS):

The recoveries for the LCS were within the control limits provided. No qualifications are placed on the data.

## 9. Duplicate Sample Analysis:

## A. Laboratory Duplicate Analysis:

Sample FJD02-06-20181203-24-56 underwent matrix spike/matrix spike duplicate (MS/MSD) analysis for ICP metals for the solid matrix. QC criteria are that the relative percent difference (RPD) values for the duplicate sample analysis are less than 20% for aqueous samples and less than 35% for solid samples. All QC criteria were met. No qualifications are placed on the data.

### B. Field Duplicate Analysis:

The following sample pair was submitted as field duplicates for the solid matrix: FJD08-04-20181203-14-56/FJD08-04-20181203-14-57. QC criteria are that the RPD values for the field duplicate sample analysis be less than 30% for aqueous samples and less than 50% for solid samples for concentrations greater than five times the reporting limit (RL). For sample concentrations less than five times the RL, the QC criteria are that the absolute difference between the samples is less than two times the RL for aqueous samples or less than 3.5 times the RL for the solid matrix. All QC criteria were met. No qualifications are placed on the data.

#### 10. Spiked Sample Analysis:

Sample FJD02-06-20181203-24-56 underwent MS/MSD analysis for ICP metals for the solid matrix. The spike recoveries for the following analytes were outside of the 75%-125% QC recovery limits for analytes whose sample concentration did not exceed the spike concentration by a factor of 4 times or more:

ANALYTE	MATRIX	%R/%R	AFFECTED SAMPLES	QUALIFIER FLAG
Cobalt	Solid	OK/69.9	All	ЛL

The post digestion spike recovery was acceptable indicating a possible digestion problem. No further qualifications are placed on the data.

#### 11. ICP Serial Dilution:

Sample FJD02-06-20181203-24-56 underwent serial dilution for the solid matrix for ICP metals. The percent difference (%D) values for serial dilution analysis were within the QC limits of 10% for all analytes whose concentrations were greater than 50 times their method detection limit (MDL). No qualifications are placed on the data.

#### 12. Sample Quantitation and Reporting Limits:

Concentrations of all reported analytes were correctly calculated.

Reported concentrations less than the RL qualified "J" by the laboratory are qualified "JQ" to indicate that the result is less than the RL but greater than the MDL.

Some ICP metals analytes in some samples were analyzed at a 50 or 100-fold dilution. Reporting limits for these analytes in these samples were elevated as a result of the dilutions performed.

# 13. Laboratory Contact

The laboratory was contacted on January 24, 2019 regarding an incorrect statement in the case narrative. An acceptable response was received on January 28, 2019.

### 14. Overall Assessment:

The cobalt result in all samples was estimated due to low MSD recovery.

Reported concentrations less than the RL qualified "J" by the laboratory were qualified "JQ" to indicate that the result is less than the RL but greater than the MDL.

The analytical data is acceptable for use with the qualifications listed above.

Client: Project: Weston Solutions, Inc.

FJ Doyle RA/TX

Sample ID:

DRA010-20181203-16-56

Collection Date:

03-Dec-2018 14:00

**ANALYTICAL REPORT** 

WorkOrder: HS18120093 Lab ID:HS18120093-01

Matrix:Soil

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL PAHS		Method:S	W8270		Prep:SW3541 / 0	4-Dec-2018	Analyst: GE)
Acenaphthene	U		0.00061	0.0040	mg/Kg-dry	1	05-Dec-2018 13:28
Acenaphthylene	0.0016	4 20	0.0012	0.0040	mg/Kg-dry	1	05-Dec-2018 13:28
Anthracene	0.0022	ىل بىر	0.00061	0.0040	mg/Kg-dry	1	05-Dec-2018 13:28
Benz(a)anthracene	0.033	·*************************************	0.0020	0.0040	mg/Kg-dry	1	05-Dec-2018 13:28
Benzo(a)pyrene	0.046		0.0012	0.0040	mg/Kg-dry	1	05-Dec-2018 13:28
Benzo(b)fluoranthene	0.094		0.0015	0.0040 /	mg/Kg-dry	1	05-Dec-2018 13:28
Benzo(g,h,i)perylene	0.046		0.00086	0.0040	mg/Kg-dry	1	05-Dec-2018 13:28
Benzo(k)fluoranthene	0.034		0.0011	0.0040	mg/Kg-dry	1	05-Dec-2018 13:28
Chrysene	0.048		0.00098	0.0040	mg/Kg-dry	1	05-Dec-2018 13:28
Dibenz(a,h)anthracene	0.013		0.0020	0.0040	mg/Kg-dry	1	05-Dec-2018 13:28
Fluoranthene	0.044		0.0013	0.0040	mg/Kg-dry	1	05-Dec-2018 13:28
Fluorene	U	mai i i i i i manane e i i i manane e e e e e e e e e e e e e e e e e	0.0013	0.0040	mg/Kg-dry	1	05-Dec-2018 13:28
Indeno(1,2,3-cd)pyrene	0.060		0.00098	0.0040	mg/Kg-dry	1	05-Dec-2018 13:28
Naphthalene	U		0.00074	0.0040	mg/Kg-dry	1	05-Dec-2018 13:28
Phenanthrene	0.010		0.0018	0.0040	mg/Kg-dry	1	05-Dec-2018 13:28
Pyrene	0.048		0.00074	0.0040	mg/Kg-dry	1	05-Dec-2018 13:28
Surr: 2-Fluorobiphenyl	60.1			43-125	%REC	1	05-Dec-2018 13:28
Surr: 4-Terphenyl-d14	94.9			32-125	%REC	1	05-Dec-2018 13:28
Surr: Nitrobenzene-d5	58.3			37-125	%REC	1	05-Dec-2018 13:28
PCBS BY SW8082A		Method:S	W8082		Prep:SW3541/36	65A / 04-Dec	-2018 Analyst: JLJ
Aroclor 1016	U	22.00	0.0051	0.020	mg/Kg-dry	1	05-Dec-2018 10:59
Aroclor 1221	U		0.0068	0.020	mg/Kg-dry	1	05-Dec-2018 10:59
Aroclor 1232	U		0.0055	0.020	mg/Kg-dry	1	05-Dec-2018 10:59
Aroclor 1242	U	,	0.0072	0.020	mg/Kg-dry	1	05-Dec-2018 10:59
Aroclor 1248	υ		0.0072	0.020	mg/Kg-dry	1	05-Dec-2018 10:59
Aroclor 1254	U		0.0057	0.020	mg/Kg-dry	1	05-Dec-2018 10:59
Aroclor 1260	0.80		0.024	0.10	mg/Kg-dry	5	05-Dec-2018 13:30
Surr: Decachlorobiphenyl	126			54-143	%REC	5	05-Dec-2018 13:30
Surr: Decachlorobiphenyl	126			54-143	%REC	1	05-Dec-2018 10:59
Surr: Tetrachloro-m-xylene	103			50-140	%REC	1	05-Dec-2018 10:59
Surr: Tetrachloro-m-xylene	95.3	J		50-140	%REC	5	05-Dec-2018 13:30
METALS BY SW6020A		Method:S	W6020		Prep:SW3050A /	04-Dec-2018	Analyst: JCJ
Arsenic	9.48		0.0822	0.587	mg/Kg-dry		05-Dec-2018 16:01
Cadmium	0.476	+ 10	0.0317	0.587	mg/Kg-dry	1	05-Dec-2018 16:01
Cobalt	13.3	ゴレ	0.0176	0.587	mg/Kg-dry		05-Dec-2018 16:01
lron	26,700		215	5870	mg/Kg-dry	100	05-Dec-2018 16:58
Lead	35.5		0.0153	0.587	mg/Kg-dry		05-Dec-2018 16:01
Manganese	1,240		5.05	58.7	mg/Kg-dry		05-Dec-2018 16:58



**ALS Houston, US** 

Date: 05-Dec-18

Client:

Weston Solutions, Inc.

DRA010-20181203-16-56

Project: Sample ID: FJ Doyle RA/TX

Collection Date:

03-Dec-2018 14:00

**ANALYTICAL REPORT** 

WorkOrder:HS18120093

Lab ID:HS18120093-01

Matrix:Soil

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
MOISTURE - ASTM D2216 Percent Moisture	N 18.7	lethod:AS	T <b>M D2216</b> 0.0100	0.0100	wt%	1	Analyst: DFF 04-Dec-2018 12:46

Note: See Qualifiers Page for a list of qualifiers and their explanation.



Q 1/24/19

Client: Project: Weston Solutions, Inc.

FJ Doyle RA/TX

Sample ID:

DRA011-20181203-12-56

Collection Date:

03-Dec-2018 14:18

**ANALYTICAL REPORT** 

WorkOrder:HS18120093 Lab ID:HS18120093-02

Matrix:Soil

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL PAHS		Method:S	W8270	Administrative ministrative representation of the control of the c	Prep: SW3541 / 0	4-Dec-2018	Analyst: GEY
Acenaphthene	0.0016	JLJQ.	0.00062	0.0041	mg/Kg-dry	1	05-Dec-2018 13:48
Acenaphthylene	0.0021	'لله	0.0012	0.0041	mg/Kg-dry	1	05-Dec-2018 13:48
Anthracene	0.0065		0.00062	0.0041	mg/Kg-dry	1	05-Dec-2018 13:48
Benz(a)anthracene	0.13	***************************************	0.0020	0.0041	mg/Kg-dry	1	05-Dec-2018 13:48
Benzo(a)pyrene	0.18		0.0012	0.0041	mg/Kg-dry	1	05-Dec-2018 13:48
Benzo(b)fluoranthene	0.39		0.0015	0.0041	mg/Kg-dry	1	05-Dec-2018 13:48
Benzo(g,h,i)perylene	0.15		0.00087	0.0041	mg/Kg-dry	1	05-Dec-2018 13:48
Benzo(k)fluoranthene	0.15		0.0011	0.0041	mg/Kg-dry	1	05-Dec-2018 13:48
Chrysene	0.17		0.00099	0.0041	mg/Kg-dry	1	05-Dec-2018 13:48
Dibenz(a,h)anthracene	0.037		0.0020	0.0041	mg/Kg-dry	1	05-Dec-2018 13:48
Fluoranthene	0.20		0.0014	0.0041	mg/Kg-dry	1	05-Dec-2018 13:48
Fluorene	U	· · · · · · · · · · · · · · · · · · ·	0.0014	0.0041	mg/Kg-dry	1	05-Dec-2018 13:48
Indeno(1,2,3-cd)pyrene	0.19		0.00099	0.0041	mg/Kg-dry	1	05-Dec-2018 13:48
Naphthalene	0.00079	420	0.00074	0.0041	mg/Kg-dry	1	05-Dec-2018 13:48
Phenanthrene	0.043	•	0.0019	0.0041	mg/Kg-dry	1	05-Dec-2018 13:48
Pyrene	0.23	one the artist of the control of the	0.00074	0.0041	mg/Kg-dry	1	05-Dec-2018 13:48
Surr: 2-Fluorobiphenyl	62.1			43-125	%REC	1	05-Dec-2018 13:48
Surr: 4-Terphenyl-d14	87.7	. ere (11) est ala a a conce rollà esc corre	***************************************	32-125	%REC	1	05-Dec-2018 13:48
Surr: Nitrobenzene-d5	58.0			37-125	%REC	1	05-Dec-2018 13:48
PCBS BY SW8082A		Method:S	W8082		Prep:SW3541/36	65A / 04-Dec	-2018 Analyst: JLJ
Aroclor 1016	U		0.0052	0.021	mg/Kg-dry	1	05-Dec-2018 11:50
Aroclor 1221	U	,	0.0069	0.021	mg/Kg-dry	1	05-Dec-2018 11:50
Aroclor 1232	U		0.0056	0.021	mg/Kg-dry	1	05-Dec-2018 11:50
Aroclor 1242	U		0.0073	0.021	mg/Kg-dry	1	05-Dec-2018 11:50
Aroclor 1248	U		0.0073	0.021	mg/Kg-dry	1	05-Dec-2018 11:50
Aroclor 1254	U		0.0058	0.021	mg/Kg-dry	1	05-Dec-2018 11:50
Aroclor 1260	0.58		0.025	0.10	mg/Kg-dry	5	05-Dec-2018 13:47
Surr: Decachlorobiphenyl	115	J		54-143	%REC	5	05-Dec-2018 13:47
Surr: Decachlorobiphenyl	108			54-143	%REC	1	05-Dec-2018 11:50
Surr: Tetrachloro-m-xylene	89.2			50-140	%REC	1	05-Dec-2018 11:50
Surr: Tetrachloro-m-xylene	88.7	J		50-140	%REC	5	05-Dec-2018 13:47
METALS BY SW6020A		Method:S	W6020		Prep;SW3050A /	04-Dec-2018	Analyst: JCJ
Arsenic	18.9		0.0832	0.594	mg/Kg-dry	1	05-Dec-2018 16:03
Cadmium	0.426	410	0.0321	0.594	mg/Kg-dry	1	05-Dec-2018 16:03
Cobalt	12.5	ゴレ	0.0178	0.594	mg/Kg-dry	1	05-Dec-2018 16:03
Iron	23,300		218	5940	mg/Kg-dry	100	05-Dec-2018 17:00
Lead	36.1		0.0155	0.594	mg/Kg-dry	1	05-Dec-2018 16:03
Manganese	1,190		5.11	59.4	mg/Kg-dry		05-Dec-2018 17:00

Note: See Qualifiers Page for a list of qualifiers and their explanation.



**ALS Houston, US** 

Date: 05-Dec-18

Client:

Weston Solutions, Inc.

Project:

FJ Doyle RA/TX

Sample ID: Collection Date:

DRA011-20181203-12-56

03-Dec-2018 14:18

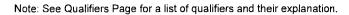
**ANALYTICAL REPORT** 

WorkOrder:HS18120093

Lab ID:HS18120093-02

Matrix:Soil

ANALYSES	RESULT QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
MOISTURE - ASTM D2216 Percent Moisture	Method:AS 19.8	TM D2216 0.0100	0.0100	wt%	1	Analyst DFF 04-Dec-2018 12:46





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Weston Solutions, Inc.

EAS05-20181203-18-56

Project: Sample ID: FJ Doyle RA/TX

Collection Date:

03-Dec-2018 13:49

**ANALYTICAL REPORT** 

WorkOrder:HS18120093 Lab ID:HS18120093-03

Matrix:Soil

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL PAHS	N. C.	Method:S	SW8270		Prep:SW3541 / 0	4-Dec-2018	Analyst GEY
Acenaphthene	U		0.00061	0.0040	mg/Kg-dry	1	05-Dec-2018 13:07
Acenaphthylene	U		0.0012	0.0040	mg/Kg-dry	1	05-Dec-2018 13:07
Anthracene	U		0.00061	0.0040	mg/Kg-dry	1	05-Dec-2018 13:07
Benz(a)anthracene	0.0048	**************************************	0.0019	0.0040	mg/Kg-dry	1	05-Dec-2018 13:07
Benzo(a)pyrene	0.0033	4 JQ	0.0012	0.0040	mg/Kg-dry	1	05-Dec-2018 13:07
Benzo(b)fluoranthene	0.0058	raccio <del>loria de la c</del> ercere de la cultura de la composiçõe de la composiçõ	0.0015	0.0040	mg/Kg-dry	1	05-Dec-2018 13:07
Benzo(g,h,i)perylene	0.0032	200	0.00085	0.0040	mg/Kg-dry	1 -	05-Dec-2018 13:07
Benzo(k)fluoranthene	0.0031	4	0.0011	0.0040	mg/Kg-dry	1	05-Dec-2018 13:07
Chrysene	0.0040	1	0.00097	0.0040	mg/Kg-dry	1	05-Dec-2018 13:07
Dibenz(a,h)anthracene	Ŭ	***************************************	0.0019	0.0040	mg/Kg-dry	1	05-Dec-2018 13:07
Fluoranthene	0.0098		0.0013	0.0040	mg/Kg-dry	1	05-Dec-2018 13:07
Fluorene	U		0.0013	0.0040	mg/Kg-dry	1	05-Dec-2018 13:07
Indeno(1,2,3-cd)pyrene	0.0018	<b>\$JQ</b>	0.00097	0.0040	mg/Kg-dry	1	05-Dec-2018 13:07
Naphthalene	U		0.00073	0.0040	mg/Kg-dry	1	05-Dec-2018 13:07
Phenanthrene	U		0.0018	0.0040	mg/Kg-dry	1	05-Dec-2018 13:07
Pyrene	0.015		0.00073	0.0040	mg/Kg-dry	1	05-Dec-2018 13:07
Surr: 2-Fluorobiphenyl	69.3			43-125	%REC	1	05-Dec-2018 13:0
Surr: 4-Terphenyl-d14	104	***************************************		32-125	%REC	1	05-Dec-2018 13:0
Surr: Nitrobenzene-d5	73.6			37-125	%REC	1	05-Dec-2018 13:0
PCBS BY SW8082A		Method:S	SW8082		Prep SW3541/36	65A / 04-Dec	-2018 Analyst: JLJ
Aroclor 1016	U		0.0051	0.020	mg/Kg-dry	1	05-Dec-2018 12:06
Aroclor 1221	U	,,	0.0068	0.020	mg/Kg-dry	1	05-Dec-2018 12:06
Aroclor 1232	U		0.0054	0.020	mg/Kg-dry	1	05-Dec-2018 12:06
Aroclor 1242	U		0.0071	0.020	mg/Kg-dry	1	05-Dec-2018 12:06
Aroclor 1248	U		0.0071	0.020	mg/Kg-dry	1	05-Dec-2018 12:00
Aroclor 1254	U		0.0057	0.020	mg/Kg-dry	1	05-Dec-2018 12:06
Aroclor 1260	0.051		0.0048	0.020	mg/Kg-dry	1 .	05-Dec-2018 12:06
Surr: Decachlorobiphenyl	95.3		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	54-143	%REC	1	05-Dec-2018 12:00
Surr: Tetrachloro-m-xylene	65.9			50-140	%REC	1	05-Dec-2018 12:00
METALS BY SW6020A	o della	Method:5	SW6020		Prep:SW3050A /	04-Dec-2018	Analyst: JCJ
Arsenic	5.89		0.0833	0.595	mg/Kg-dry	1	05-Dec-2018 16:37
Cadmium	0.276	4200	0.0321	0.595	mg/Kg-dry	1	05-Dec-2018 16:37
Cobalt	7.07	コレ	0.0179	0.595	mg/Kg-dry	1	05-Dec-2018 16:37
ron	14,100		2.18	59.5	mg/Kg-dry	1	05-Dec-2018 16:37
Lead	12.9		0.0155	0.595	mg/Kg-dry	1	05-Dec-2018 16:37
Manganese	1,080		5.12	59.5	mg/Kg-dry	100	05-Dec-2018 17:18
MOISTURE - ASTM D2216	ı	Method:AS	TM D2216				Analyst: DFF
Percent Moisture	18.4	7	0.0100	0.0100	wt%	1	04-Dec-2018 12:46

Note: See Qualifiers Page for a list of qualifiers and their explanation.



E 1/24/19

Weston Solutions, Inc.

**ANALYTICAL REPORT** 

Project:

FJ Doyle RA/TX

WorkOrder:HS18120093 Lab ID:HS18120093-04

Sample ID:

FJD02-06-20181203-24-56

Collection Date:	03-Dec-2018 1	3:53			Ма	Matrix:Soil			
ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED		
LOW-LEVEL PAHS		Method:SV	V8270	Fresh Maria	Prep:SW3541 / 0	4-Dec-2018	Analyst: GE		
Acenaphthene	U	+	0.00061	0.0041	mg/Kg-dry	1	04-Dec-2018 18:0		
Acenaphthylene	U		0.0012	0.0041	mg/Kg-dry	1	04-Dec-2018 18:0		
Anthracene	U	1	0.00061	0.0041	mg/Kg-dry	1	04-Dec-2018 18:0		
Benz(a)anthracene	U	***************************************	0.0020	0.0041	mg/Kg-dry	1	04-Dec-2018 18:0		
Benzo(a)pyrene	U		0.0012	0.0041	mg/Kg-dry	1	04-Dec-2018 18:0		
Benzo(b)fluoranthene	U	go y den deux men mener i i i i i i i i i i i i i i i i i i i	0.0015	0.0041	mg/Kg-dry	1	04-Dec-2018 18:0		
Benzo(g,h,i)perylene	U	(	0.00086	0.0041	mg/Kg-dry	1	04-Dec-2018 18:0		
Benzo(k)fluoranthene	U		0,0011	0.0041	mg/Kg-dry	1	04-Dec-2018 18:0		
Chrysene	Ų	(	0.00098	0.0041	mg/Kg-dry	1	04-Dec-2018 18:0		
Dibenz(a,h)anthracene	U		0.0020	0.0041	mg/Kg-dry	1	04-Dec-2018 18:0		
Fluoranthene	U		0.0014	0.0041	mg/Kg-dry	1	04-Dec-2018 18:0		
Fluorene	U	······································	0.0014	0.0041	mg/Kg-dry	1	04-Dec-2018 18:0		
Indeno(1,2,3-cd)pyrene	U	(	0.00098	0.0041	mg/Kg-dry	1	04-Dec-2018 18:0		
Naphthalene	U	ne veletit 1000000 is ti ene verenett i thi ti eren i ren	0.00074	0.0041	mg/Kg-dry	1	04-Dec-2018 18:0		
Phenanthrene	U		0.0018	0.0041	mg/Kg-dry	1	04-Dec-2018 18:0		
Pyrene	U	··· • do •··· • · · · · · · · · · · · · · · · ·	0.00074	0.0041	mg/Kg-dry	1	04-Dec-2018 18:0		
Surr: 2-Fluorobiphenyl	71.8			43-125	%REC	1	04-Dec-2018 18:0		
Surr: 4-Terphenyl-d14	88.3			32-125	%REC	1	04-Dec-2018 18:0		
Surr: Nitrobenzene-d5	73.5			37-125	%REC	1	04-Dec-2018 18:0		
PCBS BY SW8082A	E00	Method:SV	V8082		Prep:SW3541/36	65 <b>A</b> / 04-Dec	-2018 Analyst: JL.		
Aroclor 1016	U		0.0052	0.021	mg/Kg-dry	1	05-Dec-2018 10:0		
Aroclor 1221	U		0.0069	0.021	mg/Kg-dry	1	05-Dec-2018 10:0		
Aroclor 1232	U		0.0056	0.021	mg/Kg-dry	1	05-Dec-2018 10:0		
Aroclor 1242	U		0.0073	0.021	mg/Kg-dry	1	05-Dec-2018 10:0		
Aroclor 1248	U		0.0073	0.021	mg/Kg-dry	1	05-Dec-2018 10:0		
Aroclor 1254	U		0.0058	0.021	mg/Kg-dry	1	05-Dec-2018 10:0		
Aroclor 1260	U		0.0049	0.021	mg/Kg-dry	1	05-Dec-2018 10:0		
Surr: Decachlorobiphenyl	101			54-143	%REC	1	05-Dec-2018 10:0		
Surr: Tetrachloro-m-xylene	92.7			50-140	%REC	1	05-Dec-2018 10:0		
METALS BY SW6020A		Method:SV	V6020		Prep:SW3050A /	04-Dec-2018	Analyst: JC		
Arsenic	5.71		0.0808	0.577	mg/Kg-dry	1	05-Dec-2018 16:0		
Cadmium	0.318	\$JQQ	0.0312	0.577	mg/Kg-dry	1	05-Dec-2018 16:0		
Cobalt	6.50	JL J	0.0173	0.577	mg/Kg-dry	1	05-Dec-2018 16:0		
Iron	12,800		2.11	57.7	mg/Kg-dry	1	05-Dec-2018 16:0		
Lead	7.41		0.0150	0.577	mg/Kg-dry	1	05-Dec-2018 16:0		
Manganese	718		2.48	28.9	mg/Kg-dry	50	05-Dec-2018 17:1		
MOISTURE - ASTM D2216	M	ethod:ASTI		CNethol Control of the Control of th	·		Analyst: DF		
Percent Moisture	19.4		0.0100	0.0100	wt%	1	04-Dec-2018 12:4		

Note: See Qualifiers Page for a list of qualifiers and their explanation.



Client: Project: Weston Solutions, Inc.

FJ Doyle RA/TX

Sample ID:

FJD03-03-20181203-24-56

Collection Date:

03-Dec-2018 13:55

**ANALYTICAL REPORT** 

WorkOrder:HS18120093 Lab ID:HS18120093-05

Matrix:Soil

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL PAHS		Method:	SW8270		Prep:SW3541 / 0	4-Dec-2018	Analyst: GEY
Acenaphthene	U	000000 0 L 14 0 1 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0.00063	0.0042	mg/Kg-dry	1	04-Dec-2018 19:09
Acenaphthylene	U	00000000000000000000000000000000000000	0.0013	0.0042	mg/Kg-dry	1	04-Dec-2018 19:09
Anthracene	U		0.00063	0.0042	mg/Kg-dry	1	04-Dec-2018 19:09
Benz(a)anthracene	0.0042		0.0020	0.0042	mg/Kg-dry	1	04-Dec-2018 19:09
Benzo(a)pyrene	0.0060		0.0013	0.0042	mg/Kg-dry	1	04-Dec-2018 19:09
Benzo(b)fluoranthene	0.0094	**************************************	0.0015	0.0042	mg/Kg-dry	1	04-Dec-2018 19:09
Benzo(g,h,i)perylene	0.011		0.00089	0.0042	mg/Kg-dry	1	04-Dec-2018 19:09
Benzo(k)fluoranthene	0.0066		0.0011	0.0042	mg/Kg-dry	1	04-Dec-2018 19:09
Chrysene	0.0043		0.0010	0.0042	mg/Kg-dry	1	04-Dec-2018 19:09
Dibenz(a,h)anthracene	0.013		0.0020	0.0042	mg/Kg-dry	1	04-Dec-2018 19:09
Fluoranthene	0.0018	720	0.0014	0.0042	mg/Kg-dry	1	04-Dec-2018 19:09
Fluorene	U		0.0014	0.0042	mg/Kg-dry	1	04-Dec-2018 19:09
Indeno(1,2,3-cd)pyrene	0.013		0.0010	0.0042	mg/Kg-dry	1	04-Dec-2018 19:09
Naphthalene	U		0.00076	0.0042	mg/Kg-dry	1	04-Dec-2018 19:09
Phenanthrene	U		0.0019	0.0042	mg/Kg-dry	1	04-Dec-2018 19:09
Pyrene	0.0022	479	0.00076	0.0042	mg/Kg-dry	1	04-Dec-2018 19:09
Surr: 2-Fluorobiphenyl	73.5			43-125	%REC	1	04-Dec-2018 19:09
Surr: 4-Terphenyl-d14	91.5	4.00.000	······································	32-125	%REC	1	04-Dec-2018 19:09
Surr: Nitrobenzene-d5	72.7			37-125	%REC	1	04-Dec-2018 19:09
PCBS BY SW8082A	501	Method:S	SW8082		Prep:SW3541/36	65A / 04-Dec	-2018 Analyst: JLJ
Aroclor 1016	U		0.0053	0.021	mg/Kg-dry	1	05-Dec-2018 12:23
Aroclor 1221	U		0.0071	0.021	mg/Kg-dry	1	05-Dec-2018 12:23
Aroclor 1232	Ú		0.0057	0.021	mg/Kg-dry	1	05-Dec-2018 12:23
Aroclor 1242	U		0.0075	0.021	mg/Kg-dry	1	05-Dec-2018 12:23
Aroclor 1248	U		0.0075	0.021	mg/Kg-dry	1	05-Dec-2018 12:23
Aroclor 1254	U		0.0060	0.021	mg/Kg-dry	1	05-Dec-2018 12:23
Aroclor 1260	U		0.0051	0.021	mg/Kg-dry	1	05-Dec-2018 12:23
Surr: Decachlorobiphenyl	108			54-143	%REC	1	05-Dec-2018 12:23
Surr: Tetrachloro-m-xylene	96.5			50-140	%REC	1	05-Dec-2018 12:23
METALS BY SW6020A		Method:	SW6020		Prep:SW3050A /	04-Dec-2018	Analyst: JCJ
Arsenic	7.45		0.0831	0.594	mg/Kg-dry	1	05-Dec-2018 16:40
Cadmium	0.466	+36	2 0.0321	0.594	mg/Kg-dry	1	05-Dec-2018 16:40
Cobalt	21.6	JL	0.0178	0.594	mg/Kg-dry	1	05-Dec-2018 16:40
Iron	21,300		2.17	59.4	mg/Kg-dry	1	05-Dec-2018 16:40
Lead	16.6		0.0154	0.594	mg/Kg-dry	1	05-Dec-2018 16:40
Manganese	3,540		10.2	119	mg/Kg-dry	200	05-Dec-2018 17:21
MOISTURE - ASTM D2216	۸	lethod:AS	TM D2216			0.1	Analyst: DFF
Percent Moisture	21.2		0.0100	0.0100	wt%	1	04-Dec-2018 12:46

Note: See Qualifiers Page for a list of qualifiers and their explanation.



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Weston Solutions, Inc.

Project:

FJ Doyle RA/TX

Sample ID: Collection Date:

FJD08-03-20181203-14-56

03-Dec-2018 14:15

**ANALYTICAL REPORT** 

WorkOrder:HS18120093 Lab ID:HS18120093-06

Matrix:Soil

ANALYSES	RESULT	QUAL	MDL.	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL PAHS	100 (13 SEC. 13)	Method:S	N8270		Prep:SW3541 / 0	4-Dec-2018	Analyst: GEY
Acenaphthene	υ		0.00064	0.0042	mg/Kg-dry	1	04-Dec-2018 19:29
Acenaphthylene	U		0.0013	0.0042	mg/Kg-dry	1	04-Dec-2018 19:29
Anthracene	U		0.00064	0.0042	mg/Kg-dry	1	04-Dec-2018 19:29
Benz(a)anthracene	0.0047	~~~~	0.0020	0.0042	mg/Kg-dry	1	04-Dec-2018 19:29
Benzo(a)pyrene	0.0059		0.0013	0.0042	mg/Kg-dry	1	04-Dec-2018 19:29
Benzo(b)fluoranthene	0.0095	energegescomme ##0000000, monosco	0.0015	0.0042	mg/Kg-dry	1	04-Dec-2018 19:29
Benzo(g,h,i)perylene	0.0054		0.00089	0.0042	mg/Kg-dry	1	04-Dec-2018 19:29
Benzo(k)fluoranthene	0.0046	······································	0.0011	0.0042	mg/Kg-dry	1	04-Dec-2018 19:29
Chrysene	0.0063		0.0010	0.0042	mg/Kg-dry	1	04-Dec-2018 19:29
Dibenz(a,h)anthracene	0.0022	730	0.0020	0.0042	mg/Kg-dry	1	04-Dec-2018 19:29
Fluoranthene	0.0059		0.0014	0.0042	mg/Kg-dry	1	04-Dec-2018 19:29
Fluorene	U	**************************************	0.0014	0.0042	mg/Kg-dry	1	04-Dec-2018 19:29
Indeno(1,2,3-cd)pyrene	0.0052		0.0010	0.0042	mg/Kg-dry	1	04-Dec-2018 19:29
Naphthalene	U		0.00076	0.0042	mg/Kg-dry	1	04-Dec-2018 19:29
Phenanthrene	U		0.0019	0.0042	mg/Kg-dry	1	04-Dec-2018 19:29
Pyrene	0.0064		0.00076	0.0042	mg/Kg-dry	1	04-Dec-2018 19:29
Surr: 2-Fluorobiphenyl	67.5			43-125	%REC	1	04-Dec-2018 19:29
Surr: 4-Terphenyl-d14	84.8	00000000000000000000000000000000000000	han a new renew renew CCC i Cara renew renew CCC (new rate in the SCC (CCC)	32-125	%REC	1	04-Dec-2018 19:29
Surr: Nitrobenzene-d5	72.1			37-125	%REC	1	04-Dec-2018 19:29
PCBS BY SW8082A		Method:SI	N8082	(B)	Prep:SW3541/36	35A / 04-Dec	-2018 Analyst: JLJ
Aroclor 1016	U	3. A	0.0053	0.021	2587.00	1	05-Dec-2018 12:40
Aroclor 1221	U		0.0071	0.021	mg/Kg-dry	1	05-Dec-2018 12:40
Aroclor 1232	U		0.0057	0.021	mg/Kg-dry	1	05-Dec-2018 12:40
Aroclor 1242	U		0.0075	0.021	mg/Kg-dry	1	05-Dec-2018 12:40
Aroclor 1248	U		0.0075	0.021	mg/Kg-dry	1	05-Dec-2018 12:40
Aroclor 1254	U		0.0060	0.021	mg/Kg-dry	1	05-Dec-2018 12:40
Aroclor 1260	0.024		0.0051	0.021	mg/Kg-dry	1	05-Dec-2018 12:40
Surr: Decachlorobiphenyl	102			54-143	%REC	1	05-Dec-2018 12:40
Surr: Tetrachloro-m-xylene	78.0			50-140	%REC	1	05-Dec-2018 12:40
METALS BY SW6020A		Method:S	N6020		Prep SW3050A /	04-Dec-2018	Analyst: JCJ
Arsenic	8.41		0.0866	0.618	mg/Kg-dry	1	05-Dec-2018 16:42
Cadmium	0.295	430	0.0334	0.618	mg/Kg-dry	1	05-Dec-2018 16:42
Cobalt	13.5	オレ	0.0186	0.618	mg/Kg-dry	1	05-Dec-2018 16:42
Iron	27,000		113	3090	mg/Kg-dry	50	05-Dec-2018 17:23
Lead	34.8		0.0161	0.618	mg/Kg-dry	1	05-Dec-2018 16:42
Manganese	1,120		2.66	30.9	mg/Kg-dry	50	05-Dec-2018 17:23
MOISTURE - ASTM D2216	N	Method:AST	M D2216	Leave the second second	200	10 mm	Analyst: DFF
Percent Moisture	21.8	-	0.0100	0.0100	wt%	1	04-Dec-2018 12:46

Note: See Qualifiers Page for a list of qualifiers and their explanation.



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Weston Solutions, Inc.

FJD08-04-20181203-14-56

Project:

FJ Doyle RA/TX

Sample ID:
Collection Date:

03-Dec-2018 14:07

**ANALYTICAL REPORT** 

WorkOrder:HS18120093 Lab ID:HS18120093-07

Matrix:Soil

Collection Date:	03-Dec-2016 1	4.07			Matrix.50II			
ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED	
LOW-LEVEL PAHS	(2) P	Method:S	W8270		Prep:SW3541 / 0	4-Dec-2018	Analyst: GEY	
Acenaphthene	U		0.00063	0.0041	mg/Kg-dry	1	05-Dec-2018 12:47	
Acenaphthylene	U		0.0013	0.0041	mg/Kg-dry	1	05-Dec-2018 12:47	
Anthracene	0.0010	JJQ	0.00063	0.0041	mg/Kg-dry	1	05-Dec-2018 12:47	
Benz(a)anthracene	0.0046		0.0020	0.0041	mg/Kg-dry	1	05-Dec-2018 12:47	
Benzo(a)pyrene	0.0064		0.0013	0.0041	mg/Kg-dry	1	05-Dec-2018 12:47	
Benzo(b)fluoranthene	0.012	MMA.A	0.0015	0.0041	mg/Kg-dry	1	05-Dec-2018 12:47	
Benzo(g,h,i)perylene	0.011		0.00088	0.0041	mg/Kg-dry	1	05-Dec-2018 12:47	
Benzo(k)fluoranthene	0.0037	4JQ	0.0011	0.0041	mg/Kg-dry	1	05-Dec-2018 12:47	
Chrysene	0.0064	* 5	0.0010	0.0041	mg/Kg-dry	1	05-Dec-2018 12:47	
Dibenz(a,h)anthracene	U	aldre strater en en egeneralmente armene an en engan	0.0020	0.0041	mg/Kg-dry	1	05-Dec-2018 12:47	
Fluoranthene	0.0062		0.0014	0.0041	mg/Kg-dry	1	05-Dec-2018 12:47	
Fluorene	U		0.0014	0.0041	mg/Kg-dry	1	05-Dec-2018 12:47	
Indeno(1,2,3-cd)pyrene	0.0063		0.0010	0.0041	mg/Kg-dry	1	05-Dec-2018 12:47	
Naphthalene	U	A HELLOCOLOGY II ELL GERERALIE II IN ANDRONOMONIO	0.00075	0.0041	mg/Kg-dry	1	05-Dec-2018 12:47	
Phenanthrene	0.0025	110	0.0019	0.0041	mg/Kg-dry	1	05-Dec-2018 12:47	
Pyrene	0.0063		0.00075	0.0041	mg/Kg-dry	1	05-Dec-2018 12:47	
Surr: 2-Fluorobiphenyl	52. <i>4</i>			43-125	%REC	1	05-Dec-2018 12:47	
Surr: 4-Terphenyl-d14	91.8		s. vas vastetatannonnermant et visit trivan ten sociannonne	. 32-125	%REC	1	05-Dec-2018 12:47	
Surr: Nitrobenzene-d5	46.6			37-125	%REC	1	05-Dec-2018 12:47	
PCBS BY SW8082A	1 	Method:S	W8082	And a first the second	Prep:SW3541/36	65 <b>A</b> / 04-Dec	-2018 Analyst: JLJ	
Aroclor 1016	U		0.0053	0.021	mg/Kg-dry	1	05-Dec-2018 12:57	
Aroclor 1221	U		0.0071	0.021	mg/Kg-dry	1	05-Dec-2018 12:57	
Aroclor 1232	U		0.0057	0.021	mg/Kg-dry	1	05-Dec-2018 12:57	
Aroclor 1242	U		0.0074	0.021	mg/Kg-dry	1	05-Dec-2018 12:57	
Aroclor 1248	U		0.0074	0.021	mg/Kg-dry	1	05-Dec-2018 12:57	
Aroclor 1254	U		0.0059	0.021	mg/Kg-dry	1	05-Dec-2018 12:57	
Aroclor 1260	0.32		0.0050	0.021	mg/Kg-dry	1	05-Dec-2018 12:5	
Surr: Decachlorobiphenyl	100			54-143	%REC	1	05-Dec-2018 12:5	
Surr: Tetrachloro-m-xylene	70.1			50-140	%REC	1	05-Dec-2018 12:5	
METALS BY SW6020A	3.2	Method:S	W6020	44 S	Prep:SW3050A /	04-Dec-2018	Analyst: JC.	
Arsenic	9.87		0.0846	0.604	mg/Kg-dry	1	05-Dec-2018 16:44	
Cadmium	0.329	+30	0.0326	0.604	mg/Kg-dry	1	05-Dec-2018 16:4	
Cobalt	20.2	1C	0.0181	0.604	mg/Kg-dry	1	05-Dec-2018 16:4	
Iron	30,900		221	6040	mg/Kg-dry	100	05-Dec-2018 17:2	
Lead	32.6		0.0157	0.604	mg/Kg-dry	1	05-Dec-2018 16:4	
Manganese	2,020	nar mada en anameren e missa	5.19	60.4	mg/Kg-dry	100	05-Dec-2018 17:2	
MOISTURE - ASTM D2216	ı	Method:AS	ΓM D2216	10 - 10 (10 ) 10 - 10 (10 )			Analyst: DFF	
Percent Moisture	21.2		0.0100	0.0100	wt%	1	04-Dec-2018 12:4	

Note: See Qualifiers Page for a list of qualifiers and their explanation.



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Weston Solutions, Inc.

Project:

FJ Doyle RA/TX

Sample ID: Collection Date:

FJD08-04-20181203-14-57 03-Dec-2018 14:07 **ANALYTICAL REPORT** 

WorkOrder:HS18120093 Lab ID:HS18120093-08

Matrix:Soil

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL PAHS		Method:S	W8270		Prep:SW3541 / 0	4-Dec-2018	Analyst: GEY
Acenaphthene	U	***************************************	0.00063	0.0042	mg/Kg-dry	1	04-Dec-2018 20:29
Acenaphthylene	U	commonwealth and the second	0.0013	0.0042	mg/Kg-dry	1	04-Dec-2018 20:29
Anthracene	0.0013	-420	0.00063	0.0042	mg/Kg-dry	1	04-Dec-2018 20:29
Benz(a)anthracene	0.0082		0.0020	0.0042	mg/Kg-dry	1	04-Dec-2018 20:29
Benzo(a)pyrene	0.010		0.0013	0.0042	mg/Kg-dry	1	04-Dec-2018 20:29
Benzo(b)fluoranthene	0.022	eri dilikiliki kenanananan antikenanan antikenanan antikenanan antikenanan antikenanan antikenanan antikenanan	0.0015	0.0042	mg/Kg-dry	1	04-Dec-2018 20:29
Benzo(g,h,i)perylene	0.010		0.00089	0.0042	mg/Kg-dry	1	04-Dec-2018 20:29
Benzo(k)fluoranthene	0.0075	***************************************	0.0011	0.0042	mg/Kg-dry	1	04-Dec-2018 20:29
Chrysene	0.010		0.0010	0.0042	mg/Kg-dry	1	04-Dec-2018 20:29
Dibenz(a,h)anthracene	U	-	0.0020	0.0042	mg/Kg-dry	1	04-Dec-2018 20:29
Fluoranthene	0.0090		0.0014	0.0042	mg/Kg-dry	1	04-Dec-2018 20:29
Fluorene	U		0.0014	0.0042	mg/Kg-dry	1	04-Dec-2018 20:29
Indeno(1,2,3-cd)pyrene	0.012		0.0010	0.0042	mg/Kg-dry	1	04-Dec-2018 20:29
Naphthalene	U		0.00076	0.0042	mg/Kg-dry	1	04-Dec-2018 20:29
Phenanthrene	0.0025	450	0.0019	0.0042	mg/Kg-dry	1	04-Dec-2018 20:29
Pyrene	0.011		0.00076	0.0042	mg/Kg-dry	1	04-Dec-2018 20:29
Surr: 2-Fluorobiphenyl	75.7			43-125	%REC	1	04-Dec-2018 20:29
Surr: 4-Terphenyl-d14	105			32-125	%REC	1	04-Dec-2018 20:29
Surr: Nitrobenzene-d5	74.7			37-125	%REC	1	04-Dec-2018 20:29
PCBS BY SW8082A		Method:S	W8082		Prep:SW3541/36	65A / 04-Dec	-2018 Analyst: JLJ
Aroclor 1016	U		0.0053	0.021	mg/Kg-dry	1	05-Dec-2018 13:14
Aroclor 1221	Ú		0.0071	0.021	mg/Kg-dry	1	05-Dec-2018 13:14
Aroclor 1232	U		0.0057	0.021	mg/Kg-dry	1	05-Dec-2018 13:14
Aroclor 1242	U		0.0074	0.021	mg/Kg-dry	1	05-Dec-2018 13:14
Aroclor 1248	U		0.0074	0.021	mg/Kg-dry	1	05-Dec-2018 13:14
Aroclor 1254	U		0.0059	0.021	mg/Kg-dry	1	05-Dec-2018 13:14
Aroclor 1260	0.52		0.010	0.042	mg/Kg-dry	2	05-Dec-2018 14:04
Surr: Decachlorobiphenyl	134			54-143	%REC	2	05-Dec-2018 14:04
Surr: Decachlorobiphenyl	113			54-143	%REC	1	05-Dec-2018 13:14
Surr: Tetrachloro-m-xylene	99.6			50-140	%REC	1	05-Dec-2018 13:14
Surr: Tetrachloro-m-xylene	107			50-140	%REC	2	05-Dec-2018 14:04
METALS BY SW6020A		Method:S	W6020		Prep:SW3050A	04-Dec-2018	Analyst: JCJ
Arsenic	9.31		0.0846	0.604	mg/Kg-dry	1	05-Dec-2018 16:46
Cadmium	0.322	410	0.0326	0.604	mg/Kg-dry	1	05-Dec-2018 16:46
Cobalt	14.3	JU	0.0181	0.604	mg/Kg-dry	1	05-Dec-2018 16:46
lron .	24,400		221	6040	mg/Kg-dry	100	05-Dec-2018 17:27
Lead	30.6		0.0157	0.604	mg/Kg-dry	1	05-Dec-2018 16:46
Manganese	1,480		5.19	60.4	mg/Kg-dry	100	05-Dec-2018 17:27

Note: See Qualifiers Page for a list of qualifiers and their explanation.



of white

**ALS Houston, US** 

Date: 05-Dec-18

Client:

Weston Solutions, Inc.

Project:

FJ Doyle RA/TX

Sample ID:

FJD08-04-20181203-14-57

Collection Date:

03-Dec-2018 14:07

**ANALYTICAL REPORT** 

WorkOrder:HS18120093

Lab ID:HS18120093-08

Matrix:Soil

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
MOISTURE - ASTM D2216 Percent Moisture	N 21.4	Method:AS	TM D2216 0.0100	0.0100	wt%	1	Analyst: DFF 04-Dec-2018 12:46

Note: See Qualifiers Page for a list of qualifiers and their explanation.



8 1/4/5

# DATA QUALITY ASSURANCE REVIEW

SITE NAME Frank J. Doy	le Salvage Removal Actio	n	
WORK ORDER NUMBER	20600.012.001.1175.01	TDD NUMBER	0001/18-175
PROJECT NUMBER		SDG NUMBER	HS18120174
Weston Solutions, Inc. (WES 20600.012.001.1175.01; SDG No. analyzed for Polychlorinated Biph below.	HS18120174; Frank J. D	oyle Salvage Remo	
	SAMPLE NUM	BERS	
DRA012-20181204-12-56	FJD09-03-20181204-1	2-56	
	_		
	_		
	_		
This data package was validated to USEPA National Functional Guidelines of Laboratory Program National Functional Functional Functional Functional Functional Functional Functional Functional Functional Protocol for Holding qualifications are listed in the follows:	elines for Organic Superfu for Inorganic Superfund unctional Guidelines for I Quality Control Guidance ug Times, Blanks, and V	nd Methods Data R Data Review (Janu High Resolution Sup for Removal Activi	Peview (January, 2017), USEP, Lary, 2017), USEPA Contractor of the
PEVIEWER Gloria I Swi	talski	DATE	January 24, 2010

#### **Data Qualifiers**

Data Qualifier Definitions were supplied by the Office of Solid Waste and Emergency Response (September 1989) and are included in the Functional Guidelines. Data qualifiers may be combined (UJ, QJ) with the corresponding combination of meanings. Additional qualifiers may be added to provide additional, more specific information (JL, UB, QJK), modifying the meaning of the primary qualifier. Additional qualifiers utilized by WESTON are H, L, K, B, and Q.

U - The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation or detection limit, which has been adjusted for sample weight/sample volume, extraction volume, percent solids, sample dilution or other analysis specific parameters.

An additional qualifier, "B", may be appended to indicate that while the analyte was detected in the sample, the presence of the analyte may be attributable to blank contamination and the analyte is therefore considered undetected with the sample detection or quantitation limit for the analyte being elevated.

J - The analyte was analyzed for, but the associated numerical value may not be consistent with the amount actually present in the environmental sample or may not be consistent with the sample detection or quantitation limit. The value is an estimated quantity. The data should be seriously considered for decision-making and are usable for many purposes.

An additional qualifier will be appended to the "J" qualifier that indicates the bias in the reported results:

- L Low bias
- H High bias
- K Unknown bias
- Q The reported concentration is less than the sample quantitation limit for the specific analyte in the sample.

The L and H qualifier will only be employed when a single qualification is required. When more than one quality control parameter affects the analytical result and a conflict results in assigning a bias, the result will be flagged JK.

- R Quality Control indicates that data are unusable for all purposes. The analyte was analyzed for, but the presence or absence of the analyte has not been verified. Resampling and reanalysis are necessary for verification to confirm or deny the presence of an analyte.
- N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

#### PCB FRACTION EVALUATION

## 1. Analytical Method:

Samples were prepared and analyzed for PCBs using the procedures specified in SW-846 Method 8082A.

#### 2. Holding Time:

The samples were received within the recommended  $\leq$ 6°C NFG limit. All samples were extracted within the required holding time of less than 1 year after collection. Analysis of the samples was conducted within 40 days of extraction. No qualifications are placed on the data.

### 3. Initial Calibration:

The correlation coefficient of the multipoint initial calibration was greater than or equal to 0.995 or the percent relative standard deviation (%RSD) was less than or equal to 20%. No qualifications are placed on the data.

### 4. Continuing Calibration:

The continuing calibration check was analyzed at the required frequency and met recovery requirements of 75%-125% [percent difference (%D) was less than 25%]. No qualifications are placed on the data.

#### 5. Blanks:

#### A. Laboratory Blanks:

A method blank was prepared at the required frequency of every time samples were extracted for each matrix and concentration or every 20 samples whichever is greater. No target analytes were detected in the method blanks at concentrations that warrant blank action. No qualifications are placed on the data.

## B. Field Blanks:

No field blank samples were submitted with this analytical package. No qualifications are placed on the data.

### 6. Surrogates:

All recoveries of the surrogates were within the control limits provided. No qualifications are placed on the data.

# 7. Matrix Spikes/Matrix Spike Duplicates (MS/MSD):

Sample DRA12-20181204-12-56 underwent MS/MSD analysis for the solid matrix. Recoveries of all spiked analytes were within the control limits provided with the following exception:

ANALYTE	COMPOUND	%R/%R	AFFECTED SAMPLES	QUALIFIER FLAG
Aroclor 1260	Solid	159/OK	DRA12-20181204-12-56	None, sample ND

## 8. Duplicates:

## A. Laboratory Duplicate Analysis:

Sample DRA12-20181204-12-56 underwent MS/MSD analysis for the solid matrix. QC criteria are that the relative percent difference (RPD) values for the duplicate sample analysis are less than 20% for aqueous samples and less than 35% for solid samples. All QC criteria were met. No qualifications are placed on the data.

## B. Field Duplicate Analysis:

No field duplicate samples were submitted with this analytical package. No qualifications are placed on the data.

## 9. Laboratory Control Sample (LCS):

The laboratory analyzed an LCS and recoveries were within the control limits provided. No qualifications are placed on the data.

### 10. Target Compound Identification, Quantitation, and Reporting Limits:

Concentrations of all reported compounds were correctly calculated.

The %D between the column results were within the acceptance limits (≤25). No qualifications are placed on the data.

Aroclor 1260 in one sample was analyzed at a 2-fold dilution. The reporting limit for Aroclor 1260 in this sample was elevated as a result of the dilution performed.

### 11. Laboratory Contact:

No laboratory contact was required.

#### 12. Overall Assessment:

The analytical data is acceptable for use without qualification.

SITE NAME Frank J. Doy	le Salvage Removal Actio	n	
WORK ORDER NUMBER	20600.012.001.1175.01	TDD NUMBER	0001/18-175
PROJECT NUMBER		SDG NUMBER	HS18120174
Weston Solutions, Inc. (WES 20600.012.001.1175.01; SDG No. analyzed for Polynuclear Aromatic below.	HS18120174; Frank J. D	oyle Salvage Remo	
	SAMPLE NUM	BERS	
DRA012-20181204-12-56	FJD09-03-20181204-1	2-56	
			_
This data package was validated to USEPA National Functional Guidelines of Laboratory Program National Functional Functional Functional Functional Functional Functional Protocol for Holding qualifications are listed in the follows:	elines for Organic Superfu for Inorganic Superfund Inctional Guidelines for I Quality Control Guidance Ig Times, Blanks, and V	nd Methods Data R Data Review (Janu High Resolution Sup for Removal Activi	deview (January, 2017), USEPA lary, 2017), USEPA Contractor perfund Methods Data Review lities (September, 2011), and/o
PEVIEWER Gloria I Swi	talski	DATE	January 24, 2010

#### **Data Qualifiers**

Data Qualifier Definitions were supplied by the Office of Solid Waste and Emergency Response (September 1989) and are included in the Functional Guidelines. Data qualifiers may be combined (UJ, QJ) with the corresponding combination of meanings. Additional qualifiers may be added to provide additional, more specific information (JL, UB, QJK), modifying the meaning of the primary qualifier. Additional qualifiers utilized by WESTON are H, L, K, B, and Q.

U - The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation or detection limit, which has been adjusted for sample weight/sample volume, extraction volume, percent solids, sample dilution or other analysis specific parameters.

An additional qualifier, "B", may be appended to indicate that while the analyte was detected in the sample, the presence of the analyte may be attributable to blank contamination and the analyte is therefore considered undetected with the sample detection or quantitation limit for the analyte being elevated.

J - The analyte was analyzed for, but the associated numerical value may not be consistent with the amount actually present in the environmental sample or may not be consistent with the sample detection or quantitation limit. The value is an estimated quantity. The data should be seriously considered for decision-making and are usable for many purposes.

An additional qualifier will be appended to the "J" qualifier that indicates the bias in the reported results:

- L Low bias
- H High bias
- K Unknown bias
- Q The reported concentration is less than the sample quantitation limit for the specific analyte in the sample.

The L and H qualifier will only be employed when a single qualification is required. When more than one quality control parameter affects the analytical result and a conflict results in assigning a bias, the result will be flagged JK.

- R Quality Control indicates that data are unusable for all purposes. The analyte was analyzed for, but the presence or absence of the analyte has not been verified. Resampling and reanalysis are necessary for verification to confirm or deny the presence of an analyte.
- N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

#### PAH FRACTION EVALUATION

### 1. Analytical Method:

Samples were prepared and analyzed using the procedures specified in SW-846 Method 8270D selective ion monitoring (SIM).

### 2. Holding Time:

The samples were received within the recommended  $\leq$ 6°C NFG limit. All samples were extracted within the required holding time of less than 7 days for waters and less than 14 days for solids/wastes after collection. Analysis of the samples was conducted within 40 days of extraction. No qualifications are placed on the data.

### 3. Tuning/Performance:

DFTPP tuning of the mass spectrometer(s) was conducted at the required frequency and results were within the required criteria. No qualifications are placed on the data.

#### 4. Initial Calibration:

All individual relative response factors (RRFs) and average RRFs for the initial calibration (IC) were greater than the compound dependent (see Table 34 of National Functional Guidelines) control limits. All percent relative standard deviations (%RSDs) were less than the compound dependent (see Table 34 of National Functional Guidelines) control limits or the correlation coefficient was > 0.990. No qualifications are placed on the data.

### 5. Continuing Calibration:

All individual RRFs for the initial calibration verification (ICV) and continuing calibration (CC) standards were greater than the compound dependent (see Table 34 of National Functional Guidelines) control limits. All percent differences (%Ds) were less than the compound dependent (see Table 34 of National Functional Guidelines) control limits. No qualifications are placed on the data.

#### 6. Blanks:

### A. Laboratory Blanks:

A method blank was prepared at the required frequency of every time samples were extracted for each matrix and concentration or every 20 samples whichever is greater. Target analytes were not detected in the method at concentrations that warrant blank action. No qualifications are placed on the data.

#### B. Field Blanks:

No field blank samples were submitted with this analytical package. No qualifications are placed on the data.

#### 7. System Monitoring Compounds (SMC):

All recoveries of the system monitoring compounds (surrogates) were within the control limits provided. No qualifications are placed on the data.

### 8. Duplicates:

### A. Laboratory Duplicate Analysis:

No sample from this analytical package underwent matrix spike/matrix spike duplicate (MS/MSD) analysis. No qualifications are placed on the data.

#### B. Field Duplicate Analysis:

No field duplicate samples were submitted with this analytical package. No qualifications are placed on the data.

### 9. Matrix Spike/Matrix Spike Duplicate:

No sample from this analytical package underwent MS/MSD analysis. No qualifications are placed on the data.

#### 10. Internal Standards:

Areas of the six internal standards were within the control limits of a factor of 2 (-50% to +100%) and retention times were within 30 seconds from the associated 12 hour calibration standard. No qualifications are placed on the data.

#### 11. Laboratory Control Sample (LCS):

The laboratory analyzed an LCS and recoveries were within the control limits provided. No qualifications are placed on the data.

### 12. Target Compound Identification:

All target compounds reported by the laboratory met identification criteria of relative retention times (RRT) within 0.06 RRT units of the 12 hour standard and that all ions present in the standard mass spectrum were present in the sample mass spectrum and the abundance of these ions agreed within  $\pm 20\%$  of the standard. No qualifications are placed on the data.

#### 13. Target Compound Quantitation and Reporting Limits:

Concentrations of all reported compounds were correctly calculated.

Reported concentrations less than the reporting limit (RL) qualified "J" by the laboratory are qualified "JQ" to indicate that the result is less than the RL but greater than the method detection limit (MDL).

### 14. Laboratory Contact:

No laboratory contact was required.

#### 15. Overall Assessment

Reported concentrations less than the RL qualified "J" by the laboratory were qualified "JQ" to indicate that the result is less than the RL but greater than the MDL.

The analytical data is acceptable for use with the qualifications listed above.

SHE NAME Frank J. Doy	le Salvage Removal Actio	n	
WORK ORDER NUMBER	20600.012.001.1175.01	TDD NUMBER	0001/18-175
PROJECT NUMBER	-	SDG NUMBER	HS18120174
Weston Solutions, Inc. (WES 20600.012.001.1175.01; SDG No. analyzed for metals (As, Cd, Co, F	HS18120174; Frank J. D	oyle Salvage Remo	val Action. Two samples were
	SAMPLE NUM	BERS	
DRA012-20181204-12-56	FJD09-03-20181204-1	2-56	
	· -		
This data package was validated to USEPA National Functional Guide National Functional Guidelines y Laboratory Program National Fu (April, 2016), Quality Assurance/9 the Regional Protocol for Holding qualifications are listed in the follows:	elines for Organic Superfu for Inorganic Superfund Inctional Guidelines for I Quality Control Guidance Ig Times, Blanks, and V	nd Methods Data R Data Review (Janu Iigh Resolution Sup for Removal Activi	eview (January, 2017), USEPA nary, 2017), USEPA Contractoristics of the Contractoristics (September, 2011), and/o
REVIEWER Gloria J. Swi	talski	DATE	January 24, 2019

### **Data Qualifiers**

Data Qualifier Definitions were supplied by the Office of Solid Waste and Emergency Response (September 1989) and are included in the Functional Guidelines. Data qualifiers may be combined (UJ, QJ) with the corresponding combination of meanings. Additional qualifiers may be added to provide additional, more specific information (JL, UB, QJK), modifying the meaning of the primary qualifier. Additional qualifiers utilized by WESTON are H, L, K, B, and Q.

U - The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation or detection limit, which has been adjusted for sample weight/sample volume, extraction volume, percent solids, sample dilution or other analysis specific parameters.

An additional qualifier, "B", may be appended to indicate that while the analyte was detected in the sample, the presence of the analyte may be attributable to blank contamination and the analyte is therefore considered undetected with the sample detection or quantitation limit for the analyte being elevated.

J - The analyte was analyzed for, but the associated numerical value may not be consistent with the amount actually present in the environmental sample or may not be consistent with the sample detection or quantitation limit. The value is an estimated quantity. The data should be seriously considered for decision-making and are usable for many purposes.

An additional qualifier will be appended to the "J" qualifier that indicates the bias in the reported results:

- L Low bias
- H High bias
- K Unknown bias
- Q The reported concentration is less than the sample quantitation limit for the specific analyte in the sample.

The L and H qualifier will only be employed when a single qualification is required. When more than one quality control parameter affects the analytical result and a conflict results in assigning a bias, the result will be flagged JK.

- R Quality Control indicates that data are unusable for all purposes. The analyte was analyzed for, but the presence or absence of the analyte has not been verified. Resampling and reanalysis are necessary for verification to confirm or deny the presence of an analyte.
- N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

#### METALS DATA EVALUATION

#### 1. Analytical Method:

Samples were prepared and analyzed for ICP metals using the procedures specified in SW-846 Method 6020A.

### 2. Holding Times:

All samples met established holding time criteria of 180 days for ICP metals. No qualifications are placed on the data.

#### 3. Initial Calibration:

ICP initial calibration included a blank and five standards and initial calibration verification results fell within the control limits of 90% to 110% of the true values. No qualifications are placed on the data.

### 4. Continuing Calibration:

All ICP results fell within the control limits of 90% to 110% of the true values. No qualifications are placed on the data.

#### 5. CRDL Standard:

All results for the CRDL standard were within the control limits of 70% to 130% of the true values or the sample results were greater than the CRDL action level. No qualifications are placed on the data.

#### 6. Blanks:

#### A. Laboratory Blanks:

A method blank was prepared at the required frequency of every time samples were prepared/digested for each matrix or every 20 samples whichever is greater. Target analytes were not detected in the method and calibration blanks at concentrations that warrant blank action. No qualifications are placed on the data.

#### B. Field Blanks:

No field blank samples were submitted with this analytical package. No qualifications are placed on the data.

#### 7. ICP Interference Check:

All results for the interference check sample were within the control limits of 80% to 120% of the true values. No qualifications are placed on the data.

#### 8. Laboratory Control Sample (LCS):

The recoveries for the LCS were within the control limits provided. No qualifications are placed on the data.

### 9. Duplicate Sample Analysis:

### A. Laboratory Duplicate Analysis:

No sample from this analytical package underwent matrix spike/matrix spike duplicate (MS/MSD) analysis. No qualifications are placed on the data.

### B. Field Duplicate Analysis:

No field duplicate samples were submitted with this analytical package. No qualifications are placed on the data.

### 10. Spiked Sample Analysis:

No sample from this analytical package underwent MS/MSD analysis. No qualifications are placed on the data.

#### 11. ICP Serial Dilution:

No sample from this analytical package underwent serial dilution. No qualifications are placed on the data.

### 12. Sample Quantitation and Reporting Limits:

Concentrations of all reported analytes were correctly calculated.

Reported concentrations less than the reporting limit (RL) qualified "J" by the laboratory are qualified "JQ" to indicate that the result is less than the RL but greater than the MDL.

Some ICP metals analytes in some samples were analyzed at a 50-fold dilution. Reporting limits for these analytes in these samples were elevated as a result of the dilutions performed.

#### 13. Laboratory Contact

No laboratory contact was required.

#### 14. Overall Assessment:

Reported concentrations less than the RL qualified "J" by the laboratory were qualified "JQ" to indicate that the result is less than the RL but greater than the MDL.

The analytical data is acceptable for use with the qualifications listed above.

Client: Project: Weston Solutions, Inc.

FJ Doyle RA/TX

Sample ID:

DRA012-20181204-12-56

Collection Date:

04-Dec-2018 15:20

**ANALYTICAL REPORT** 

WorkOrder:HS18120174 Lab ID:HS18120174-01

Matrix:Soil

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL PAHS	and real same of	Method:SV	N8270		Prep:SW3541 / 0	6-Dec-2018	Analyst GEY
Acenaphthene	0.0073	ı	0.00065	0.0043	mg/Kg-dry	1	08-Dec-2018 13:54
Acenaphthylene	U	######################################	0.0013	0.0043	mg/Kg-dry	1	08-Dec-2018 13:54
Anthracene	0.015	1	0.00065	0.0043	mg/Kg-dry	1	08-Dec-2018 13:54
Benz(a)anthracene	0.056		0.0021	0.0043	mg/Kg-dry	1	08-Dec-2018 13:54
Benzo(a)pyrene	0.057		0.0013	0.0043	mg/Kg-dry	1	08-Dec-2018 13:54
Benzo(b)fluoranthene	0.091		0.0015	0.0043	mg/Kg-dry	1	08-Dec-2018 13:54
Benzo(g,h,i)perylene	0.040	1	0.00090	0.0043	mg/Kg-dry	1	08-Dec-2018 13:54
Benzo(k)fluoranthene	0.033		0.0012	0.0043	mg/Kg-dry	1	08-Dec-2018 13:54
Chrysene	0.059		0.0010	0.0043	mg/Kg-dry	1	08-Dec-2018 13:54
Dibenz(a,h)anthracene	0.0094		0.0021	0.0043	mg/Kg-dry	1	08-Dec-2018 13:54
Fluoranthene	0.089		0.0014	0.0043	mg/Kg-dry	1	08-Dec-2018 13:54
Fluorene	0.0071		0.0014	0.0043	mg/Kg-dry	1	08-Dec-2018 13:54
Indeno(1,2,3-cd)pyrene	0.041		0.0010	0.0043	mg/Kg-dry	1	08-Dec-2018 13:54
Naphthalene	0.0099		0.00077	0.0043	mg/Kg-dry	1	08-Dec-2018 13:54
Phenanthrene	0.055		0.0019	0.0043	mg/Kg-dry	1	08-Dec-2018 13:54
Pyrene	0.098	00000 1000 100 100 100 100 100 100 100	0.00077	0.0043	mg/Kg-dry	1	08-Dec-2018 13:54
Surr: 2-Fluorobiphenyl	75.4			43-125	%REC	1	08-Dec-2018 13:54
Surr: 4-Terphenyl-d14	87.5		consecutation is homogeneous	32-125	%REC	1	08-Dec-2018 13:54
Surr: Nitrobenzene-d5	76.9			37-125	%REC	1	08-Dec-2018 13:54
PCBS BY SW8082A	1000	Method:SV	N8082	100	Prep:SW3541/36	65A / 05-Dec	-2018 Analyst: JLJ
Aroclor 1016	U		0.0054	0.022	mg/Kg-dry	1	06-Dec-2018 10:38
Aroclor 1221	U		0.0072	0.022	mg/Kg-dry	1	06-Dec-2018 10:38
Aroclor 1232	U		0.0058	0.022	mg/Kg-dry	1	06-Dec-2018 10:38
Aroclor 1242	U		0.0076	0.022	mg/Kg-dry	1	06-Dec-2018 10:38
Aroclor 1248	U		0.0076	0.022	mg/Kg-dry	1	06-Dec-2018 10:38
Aroclor 1254	U		0.0061	0.022	mg/Kg-dry	1	06-Dec-2018 10:38
Aroclor 1260	U		0.0052	0.022	mg/Kg-dry	1	06-Dec-2018 10:38
Surr: Decachlorobiphenyl	120			54-143	%REC	1	06-Dec-2018 10:38
Surr: Tetrachloro-m-xylene	99.2			50-140	%REC	1	06-Dec-2018 10:38
METALS BY SW6020A		Method:S\	N6020		Prep:SW3050A /	05-Dec-2018	Analyst: JCJ
Arsenic	7.01		0.0836	0.597	mg/Kg-dry	1	06-Dec-2018 00:31
Cadmium	0.350	470	0.0322	0.597	mg/Kg-dry	1	06-Dec-2018 00:31
Cobalt	12.2	•	0.0179	0.597	mg/Kg-dry	1	06-Dec-2018 00:31
Iron	27,000		109	2990	mg/Kg-dry	50	06-Dec-2018 13:24
Lead	33.8		0.0155	0.597	mg/Kg-dry	1	06-Dec-2018 00:31
Manganese	1,180	-	2.57	29.9	mg/Kg-dry	50	06-Dec-2018 13:24
MOISTURE - ASTM D2216	No.	Method:AST	M D2216				Analyst: DFF
Percent Moisture	22.8		0.0100	0.0100	wt%	1	05-Dec-2018 16:59

Note: See Qualifiers Page for a list of qualifiers and their explanation.



4 of 23

Client: Project: Weston Solutions, Inc.

FJ Doyle RA/TX

Sample ID:

FJD09-03-20181204-12-56

Collection Date:

04-Dec-2018 15:23

**ANALYTICAL REPORT** 

WorkOrder:HS18120174 Lab ID:HS18120174-02

Matrix:Soil

Concettori Bate.	Diection Date. 04-Dec-2010 13.23			urix.goii			
ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL PAHS		Method:S	W8270	Services (Services )	Prep:SW3541 / 0	6-Dec-2018	Analyst: GEY
Acenaphthene	U		0.00064	0.0043	mg/Kg-dry	1	08-Dec-2018 13:35
Acenaphthylene	U		0.0013	0.0043	mg/Kg-dry	1	08-Dec-2018 13:35
Anthracene	0.0025	720	0.00064	0.0043	mg/Kg-dry	1	08-Dec-2018 13:35
Benz(a)anthracene	0.021	report Vilence a service so, accessorance,	0.0021	0.0043	mg/Kg-dry	1	08-Dec-2018 13:35
Benzo(a)pyrene	0.030		0.0013	0.0043	mg/Kg-dry	1	08-Dec-2018 13:35
Benzo(b)fluoranthene	0.063		0.0015	0.0043	mg/Kg-dry	1	08-Dec-2018 13:35
Benzo(g,h,i)perylene	0.037		0.00090	0.0043	mg/Kg-dry	1	08-Dec-2018 13:35
Benzo(k)fluoranthene	0.020	geographic control of the control of	0.0012	0.0043	mg/Kg-dry	1	08-Dec-2018 13:35
Chrysene	0.031		0.0010	0.0043	mg/Kg-dry	1	08-Dec-2018 13:35
Dibenz(a,h)anthracene	0.0091		0.0021	0.0043	mg/Kg-dry	1	08-Dec-2018 13:35
Fluoranthene	0.036		0.0014	0.0043	mg/Kg-dry	1	08-Dec-2018 13:35
Fluorene	0.0039	7JQ	0.0014	0.0043	mg/Kg-dry	1	08-Dec-2018 13:35
Indeno(1,2,3-cd)pyrene	0.036	•	0.0010	0.0043	mg/Kg-dry	1	08-Dec-2018 13:35
Naphthalene	0.0027	400	0.00077	0.0043	mg/Kg-dry	1	08-Dec-2018 13:35
Phenanthrene	0.017		0.0019	0.0043	mg/Kg-dry	1	08-Dec-2018 13:35
Pyrene	0.036		0.00077	0.0043	mg/Kg-dry	1	08-Dec-2018 13:35
Surr: 2-Fluorobiphenyl	55. <i>4</i>			43-125	%REC	1	08-Dec-2018 13:35
Surr: 4-Terphenyl-d14	83.5	······································	titi talah disebah dikerendah sebuah sebuah sebah disebah disebah disebah sebah disebah disebah disebah disebah	32-125	%REC	1	08-Dec-2018 13:35
Surr: Nitrobenzene-d5	55.6			37-125	%REC	1	08-Dec-2018 13:35
PCBS BY SW8082A	Total	Method:S	W8082		Prep:SW3541/36	65A / 05-Dec	-2018 Analyst: JLJ
Aroclor 1016	U		0.0054	0.021	mg/Kg-dry	1	06-Dec-2018 11:25
Aroclor 1221	U		0.0072	0.021	mg/Kg-dry	1	06-Dec-2018 11:25
Aroclor 1232	U		0.0058	0.021	mg/Kg-dry	1	06-Dec-2018 11:25
Aroclor 1242	U	••••••••••	0.0076	0.021	mg/Kg-dry	1	06-Dec-2018 11:25
Aroclor 1248	U		0.0076	0.021	mg/Kg-dry	1	06-Dec-2018 11:25
Aroclor 1254	U		0.0060	0.021	mg/Kg-dry	1	06-Dec-2018 11:25
Aroclor 1260	0.56		0.010	0.043	mg/Kg-dry	2	06-Dec-2018 11:44
Surr: Decachlorobiphenyl	137			54-143	%REC	2	06-Dec-2018 11:44
Surr: Decachlorobiphenyl	125			54-143	%REC	1	06-Dec-2018 11:25
Surr: Tetrachloro-m-xylene	108			50-140	%REC	1	06-Dec-2018 11:25
Surr: Tetrachloro-m-xylene	109			50-140	%REC	2	06-Dec-2018 11:44
METALS BY SW6020A	NAME OF STREET	Method:S	W6020		Prep:SW3050A /	05-Dec-2018	Analyst: JCJ
Arsenic	6.49		0.0862	0.616	mg/Kg-dry	1	06-Dec-2018 00:33
Cadmium	0.252	720	0.0333	0.616	mg/Kg-dry	.1	06-Dec-2018 00:33
Cobalt	12.7	<b>v</b>	0.0185	0.616	mg/Kg-dry	1	06-Dec-2018 00:33
iron	27,900	**************************************	113	3080	mg/Kg-dry	50	06-Dec-2018 13:26
Lead	23.3		0.0160	0.616	mg/Kg-dry	1	06-Dec-2018 00:33
Manganese	1,140		2.65	30.8	mg/Kg-dry	50	06-Dec-2018 13:26

Note: See Qualifiers Page for a list of qualifiers and their explanation.



& Hoylis

**ALS Houston, US** 

Date: 11-Dec-18

Client:

Weston Solutions, Inc.

Project:

FJ Doyle RA/TX

Sample ID:

FJD09-03-20181204-12-56

Collection Date:

04-Dec-2018 15:23

**ANALYTICAL REPORT** 

WorkOrder:HS18120174

Lab ID:HS18120174-02

Matrix:Soil

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
MOISTURE - ASTM D2216		Method:ASTI		**************************************	40/		Analyst: DFF
Percent Moisture	22.6		0.0100	0.0100	wt%	1	05-Dec-2018 16

Note: See Qualifiers Page for a list of qualifiers and their explanation.



8/1/19

SITE NAME Frank J. Doy	le Salvage Removal Actio	n	
WORK ORDER NUMBER	20600.012.001.1175.01	TDD NUMBER	0001/18-175
PROJECT NUMBER		SDG NUMBER	HS18120264
Weston Solutions, Inc. (WES 20600.012.001.1175.01; SDG No. analyzed for Polychlorinated Biphebelow.	HS18120264; Frank J. D	oyle Salvage Remo	
	SAMPLE NUM	BERS	
DRA06-20181205-24-56	FJD08-01-20181205-1	2-56	
This data package was validated to USEPA National Functional Guidelines of Laboratory Program National Fu (April, 2016), Quality Assurance/9 the Regional Protocol for Holdin qualifications are listed in the follows:	elines for Organic Superfu for Inorganic Superfund enctional Guidelines for H Quality Control Guidance g Times, Blanks, and V	nd Methods Data R Data Review (Janu ligh Resolution Sup for Removal Activi	Peview (January, 2017), USEPA Lary, 2017), USEPA Contract perfund Methods Data Reviev ities (September, 2011), and/o
DEVIEWED Gloria I Swi	taleki	DATE	January 20, 2010

#### **Data Qualifiers**

Data Qualifier Definitions were supplied by the Office of Solid Waste and Emergency Response (September 1989) and are included in the Functional Guidelines. Data qualifiers may be combined (UJ, QJ) with the corresponding combination of meanings. Additional qualifiers may be added to provide additional, more specific information (JL, UB, QJK), modifying the meaning of the primary qualifier. Additional qualifiers utilized by WESTON are H, L, K, B, and Q.

U - The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation or detection limit, which has been adjusted for sample weight/sample volume, extraction volume, percent solids, sample dilution or other analysis specific parameters.

An additional qualifier, "B", may be appended to indicate that while the analyte was detected in the sample, the presence of the analyte may be attributable to blank contamination and the analyte is therefore considered undetected with the sample detection or quantitation limit for the analyte being elevated.

J - The analyte was analyzed for, but the associated numerical value may not be consistent with the amount actually present in the environmental sample or may not be consistent with the sample detection or quantitation limit. The value is an estimated quantity. The data should be seriously considered for decision-making and are usable for many purposes.

An additional qualifier will be appended to the "J" qualifier that indicates the bias in the reported results:

- L Low bias
- H High bias
- K Unknown bias
- Q The reported concentration is less than the sample quantitation limit for the specific analyte in the sample.

The L and H qualifier will only be employed when a single qualification is required. When more than one quality control parameter affects the analytical result and a conflict results in assigning a bias, the result will be flagged JK.

- R Quality Control indicates that data are unusable for all purposes. The analyte was analyzed for, but the presence or absence of the analyte has not been verified. Resampling and reanalysis are necessary for verification to confirm or deny the presence of an analyte.
- N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

#### PCB FRACTION EVALUATION

### 1. Analytical Method:

Samples were prepared and analyzed for PCBs using the procedures specified in SW-846 Method 8082A.

#### 2. Holding Time:

The samples were received within the recommended ≤6°C NFG limit. All samples were extracted within the required holding time of less than 1 year after collection. Analysis of the samples was conducted within 40 days of extraction. No qualifications are placed on the data.

#### 3. Initial Calibration:

The correlation coefficient of the multipoint initial calibration was greater than or equal to 0.995 or the percent relative standard deviation (%RSD) was less than or equal to 20%. No qualifications are placed on the data.

#### 4. Continuing Calibration:

The continuing calibration check was analyzed at the required frequency and met recovery requirements of 75%-125% [percent difference (%D) was less than 25%]. No qualifications are placed on the data.

#### 5. Blanks:

#### A. Laboratory Blanks:

A method blank was prepared at the required frequency of every time samples were extracted for each matrix and concentration or every 20 samples whichever is greater. No target analytes were detected in the method blanks at concentrations that warrant blank action. No qualifications are placed on the data.

### B. Field Blanks:

No field blank samples were submitted with this analytical package. No qualifications are placed on the data.

#### 6. Surrogates:

All recoveries of the surrogates were within the control limits provided. No qualifications are placed on the data.

### 7. Matrix Spikes/Matrix Spike Duplicates (MS/MSD):

Sample FJD08-01-20181205-12-56 underwent MS/MSD analysis for the solid matrix. Recoveries of all spiked analytes were within the control limits provided No qualifications are placed on the data.

### 8. Duplicates:

### A. Laboratory Duplicate Analysis:

Sample FJD08-01-20181205-12-56 underwent MS/MSD analysis for the solid matrix. QC criteria are that the relative percent difference (RPD) values for the duplicate sample analysis are less than 20% for aqueous samples and less than 35% for solid samples. All QC criteria were met. No qualifications are placed on the data.

### B. Field Duplicate Analysis:

No field duplicate samples were submitted with this analytical package. No qualifications are placed on the data.

### 9. Laboratory Control Sample (LCS):

The laboratory analyzed an LCS and recoveries were within the control limits provided. No qualifications are placed on the data.

#### 10. Target Compound Identification, Quantitation, and Reporting Limits:

Concentrations of all reported compounds were correctly calculated.

The %D between the column results were within the acceptance limits (≤25). No qualifications are placed on the data.

#### 11. Laboratory Contact:

The laboratory was contacted on January 24, 2019 regarding incorrect sample weights and volumes on a run log and quantitation report. An acceptable response was received on January 28, 2019.

#### 12. Overall Assessment:

The analytical data is acceptable for use without qualification.

SHE NAME Frank J. Doy	ie Salvage Removal Actio	on	
WORK ORDER NUMBER	20600.012.001.1175.01	TDD NUMBER	0001/18-175
PROJECT NUMBER		SDG NUMBER	HS18120264
Weston Solutions, Inc. (WES 20600.012.001.1175.01; SDG No. analyzed for Polynuclear Aromatic below.	HS18120264; Frank J. D	Ooyle Salvage Remo	val Action. Two samples were
	SAMPLE NUM	IBERS	
DRA06-20181205-24-56	FJD08-01-20181205-1	2-56	
This data package was validated to USEPA National Functional Guidelines of Laboratory Program National Fur (April, 2016), Quality Assurance/9 the Regional Protocol for Holdin qualifications are listed in the follows	elines for Organic Superfi for Inorganic Superfund nctional Guidelines for I Quality Control Guidance g Times, Blanks, and V	und Methods Data R Data Review (Janu High Resolution Sup of for Removal Active	Review (January, 2017), USEPA uary, 2017), USEPA Contract perfund Methods Data Review ities (September, 2011), and/or
REVIEWER Gloria J. Swit	talski	DATE	January 29, 2019

#### **Data Qualifiers**

Data Qualifier Definitions were supplied by the Office of Solid Waste and Emergency Response (September 1989) and are included in the Functional Guidelines. Data qualifiers may be combined (UJ, QJ) with the corresponding combination of meanings. Additional qualifiers may be added to provide additional, more specific information (JL, UB, QJK), modifying the meaning of the primary qualifier. Additional qualifiers utilized by WESTON are H, L, K, B, and Q.

U - The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation or detection limit, which has been adjusted for sample weight/sample volume, extraction volume, percent solids, sample dilution or other analysis specific parameters.

An additional qualifier, "B", may be appended to indicate that while the analyte was detected in the sample, the presence of the analyte may be attributable to blank contamination and the analyte is therefore considered undetected with the sample detection or quantitation limit for the analyte being elevated.

J - The analyte was analyzed for, but the associated numerical value may not be consistent with the amount actually present in the environmental sample or may not be consistent with the sample detection or quantitation limit. The value is an estimated quantity. The data should be seriously considered for decision-making and are usable for many purposes.

An additional qualifier will be appended to the "J" qualifier that indicates the bias in the reported results:

- L Low bias
- H High bias
- K Unknown bias
- Q The reported concentration is less than the sample quantitation limit for the specific analyte in the sample.

The L and H qualifier will only be employed when a single qualification is required. When more than one quality control parameter affects the analytical result and a conflict results in assigning a bias, the result will be flagged JK.

- R Quality Control indicates that data are unusable for all purposes. The analyte was analyzed for, but the presence or absence of the analyte has not been verified. Resampling and reanalysis are necessary for verification to confirm or deny the presence of an analyte.
- N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

#### PAH FRACTION EVALUATION

### 1. Analytical Method:

Samples were prepared and analyzed using the procedures specified in SW-846 Method 8270D selective ion monitoring (SIM).

### 2. Holding Time:

The samples were received within the recommended  $\leq$ 6°C NFG limit. All samples were extracted within the required holding time of less than 7 days for waters and less than 14 days for solids/wastes after collection. Analysis of the samples was conducted within 40 days of extraction. No qualifications are placed on the data.

### 3. Tuning/Performance:

DFTPP tuning of the mass spectrometer(s) was conducted at the required frequency and results were within the required criteria. No qualifications are placed on the data.

#### 4. Initial Calibration:

All individual relative response factors (RRFs) and average RRFs for the initial calibration (IC) were greater than the compound dependent (see Table 34 of National Functional Guidelines) control limits. All percent relative standard deviations (%RSDs) were less than the compound dependent (see Table 34 of National Functional Guidelines) control limits or the correlation coefficient was > 0.990. No qualifications are placed on the data.

### 5. Continuing Calibration:

All individual RRFs for the initial calibration verification (ICV) and continuing calibration (CC) standards were greater than the compound dependent (see Table 34 of National Functional Guidelines) control limits. All percent differences (%Ds) were less than the compound dependent (see Table 34 of National Functional Guidelines) control limits. No qualifications are placed on the data.

#### 6. Blanks:

### A. Laboratory Blanks:

A method blank was prepared at the required frequency of every time samples were extracted for each matrix and concentration or every 20 samples whichever is greater. Target analytes were not detected in the method at concentrations that warrant blank action. No qualifications are placed on the data.

#### B Field Blanks:

No field blank samples were submitted with this analytical package. No qualifications are placed on the data.

#### 7. System Monitoring Compounds (SMC):

All recoveries of the system monitoring compounds (surrogates) were within the control limits provided. No qualifications are placed on the data.

### 8. Duplicates:

#### A. Laboratory Duplicate Analysis:

No sample from this analytical package underwent matrix spike/matrix spike duplicate (MS/MSD) analysis. No qualifications are placed on the data.

### B. Field Duplicate Analysis:

No field duplicate samples were submitted with this analytical package. No qualifications are placed on the data.

#### 9. Matrix Spike/Matrix Spike Duplicate:

No sample from this analytical package underwent MS/MSD analysis. No qualifications are placed on the data.

#### 10. Internal Standards:

Areas of the six internal standards were within the control limits of a factor of 2 (-50% to +100%) and retention times were within 30 seconds from the associated 12 hour calibration standard. No qualifications are placed on the data.

### 11. Laboratory Control Sample (LCS):

The laboratory analyzed an LCS and recoveries were within the control limits provided. No qualifications are placed on the data.

#### 12. Target Compound Identification:

All target compounds reported by the laboratory met identification criteria of relative retention times (RRT) within 0.06 RRT units of the 12 hour standard and that all ions present in the standard mass spectrum were present in the sample mass spectrum and the abundance of these ions agreed within  $\pm$  20% of the standard. No qualifications are placed on the data.

#### 13. Target Compound Quantitation and Reporting Limits:

Concentrations of all reported compounds were correctly calculated.

Reported concentrations less than the reporting limit (RL) qualified "J" by the laboratory are qualified "JQ" to indicate that the result is less than the RL but greater than the method detection limit (MDL).

#### 14. Laboratory Contact:

The laboratory was contacted on January 24, 2019 regarding an incorrect sample weight on a quantitation report. An acceptable response was received on January 28, 2019.

## 15. Overall Assessment

Reported concentrations less than the RL qualified "J" by the laboratory were qualified "JQ" to indicate that the result is less than the RL but greater than the MDL.

The analytical data is acceptable for use with the qualifications listed above.

SITE NAME Frank J. Doy	le Salvage Removal Actio	n	
WORK ORDER NUMBER	20600.012.001.1175.01	TDD NUMBER	0001/18-175
PROJECT NUMBER		SDG NUMBER	HS18120264
Weston Solutions, Inc. (WES 20600.012.001.1175.01; SDG No. analyzed for metals (As, Cd, Co, F	HS18120264; Frank J. D	oyle Salvage Remo	val Action. Two samples were
	SAMPLE NUM	BERS	
DRA06-20181205-24-56	FJD08-01-20181205-1	2-56	
	-		
			_
	-		
This data package was validated to USEPA National Functional Guidelines of National Functional Guidelines of Laboratory Program National Fur (April, 2016), Quality Assurance/of the Regional Protocol for Holdin qualifications are listed in the follows:	elines for Organic Superfu for Inorganic Superfund nctional Guidelines for I Quality Control Guidance g Times, Blanks, and V	nd Methods Data R Data Review (Janu High Resolution Sup for Removal Activi	eview (January, 2017), USEPA nary, 2017), USEPA Contractoristics of the Contractoristics (September, 2011), and/o
REVIEWER Gloria J. Swit	talski	DATE	January 24, 2019

### **Data Qualifiers**

Data Qualifier Definitions were supplied by the Office of Solid Waste and Emergency Response (September 1989) and are included in the Functional Guidelines. Data qualifiers may be combined (UJ, QJ) with the corresponding combination of meanings. Additional qualifiers may be added to provide additional, more specific information (JL, UB, QJK), modifying the meaning of the primary qualifier. Additional qualifiers utilized by WESTON are H, L, K, B, and Q.

U - The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation or detection limit, which has been adjusted for sample weight/sample volume, extraction volume, percent solids, sample dilution or other analysis specific parameters.

An additional qualifier, "B", may be appended to indicate that while the analyte was detected in the sample, the presence of the analyte may be attributable to blank contamination and the analyte is therefore considered undetected with the sample detection or quantitation limit for the analyte being elevated.

J - The analyte was analyzed for, but the associated numerical value may not be consistent with the amount actually present in the environmental sample or may not be consistent with the sample detection or quantitation limit. The value is an estimated quantity. The data should be seriously considered for decision-making and are usable for many purposes.

An additional qualifier will be appended to the "J" qualifier that indicates the bias in the reported results:

- L Low bias
- H High bias
- K Unknown bias
- Q The reported concentration is less than the sample quantitation limit for the specific analyte in the sample.

The L and H qualifier will only be employed when a single qualification is required. When more than one quality control parameter affects the analytical result and a conflict results in assigning a bias, the result will be flagged JK.

- R Quality Control indicates that data are unusable for all purposes. The analyte was analyzed for, but the presence or absence of the analyte has not been verified. Resampling and reanalysis are necessary for verification to confirm or deny the presence of an analyte.
- N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

#### METALS DATA EVALUATION

#### 1. Analytical Method:

Samples were prepared and analyzed for ICP metals using the procedures specified in SW-846 Method 6020A.

### 2. Holding Times:

All samples met established holding time criteria of 180 days for ICP metals. No qualifications are placed on the data.

#### 3. Initial Calibration:

ICP initial calibration included a blank and five standards and initial calibration verification results fell within the control limits of 90% to 110% of the true values. No qualifications are placed on the data.

### 4. Continuing Calibration:

All ICP results fell within the control limits of 90% to 110% of the true values. No qualifications are placed on the data.

#### 5. CRDL Standard:

All results for the CRDL standard were within the control limits of 70% to 130% of the true values or the sample results were greater than the CRDL action level. No qualifications are placed on the data.

#### 6. Blanks:

#### A. Laboratory Blanks:

A method blank was prepared at the required frequency of every time samples were prepared/digested for each matrix or every 20 samples whichever is greater. Target analytes were not detected in the method and calibration blanks at concentrations that warrant blank action. No qualifications are placed on the data.

#### B. Field Blanks:

No field blank samples were submitted with this analytical package. No qualifications are placed on the data.

#### 7. ICP Interference Check:

All results for the interference check sample were within the control limits of 80% to 120% of the true values. No qualifications are placed on the data.

#### 8. Laboratory Control Sample (LCS):

The recoveries for the LCS were within the control limits provided. No qualifications are placed on the data.

### 9. Duplicate Sample Analysis:

### A. Laboratory Duplicate Analysis:

No sample from this analytical package underwent matrix spike/matrix spike duplicate (MS/MSD) analysis. No qualifications are placed on the data.

### B. Field Duplicate Analysis:

No field duplicate samples were submitted with this analytical package. No qualifications are placed on the data.

### 10. Spiked Sample Analysis:

No sample from this analytical package underwent MS/MSD analysis. No qualifications are placed on the data.

#### 11. ICP Serial Dilution:

No sample from this analytical package underwent serial dilution. No qualifications are placed on the data.

### 12. Sample Quantitation and Reporting Limits:

Concentrations of all reported analytes were correctly calculated.

Reported concentrations less than the reporting limit (RL) qualified "J" by the laboratory are qualified "JQ" to indicate that the result is less than the RL but greater than the MDL.

Some ICP metals analytes in some samples were analyzed at a 50 or 100-fold dilution. Reporting limits for these analytes in these samples were elevated as a result of the dilutions performed.

#### 13. Laboratory Contact

No laboratory contact was required.

#### 14. Overall Assessment:

Reported concentrations less than the RL qualified "J" by the laboratory were qualified "JQ" to indicate that the result is less than the RL but greater than the MDL.

The analytical data is acceptable for use with the qualifications listed above.

Client:

Weston Solutions, Inc.

DRA06-20181205-24-56

Project:

Sample ID:

FJ Doyle RA/TX

Collection Date:

05-Dec-2018 13:29

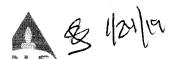
**ANALYTICAL REPORT** 

WorkOrder: HS18120264 Lab ID: HS18120264-01

Matrix:Soil

ANALYSES	RESULT	QUAL	MDL	REPORT	UNITS	DILUTION FACTOR	DATE ANALYZED
7.11.7.E.1.0.E.0		40/12		LIMIT			ANALIZED
LOW-LEVEL PAHS		Method:S\	<b>50.</b> (20. 10. 10. 10. 10. 10. 10. 10. 10. 10. 1		Prep:SW3541 / 0		Analyst: ACI
Acenaphthene	0.013		0.00063	0.0041	mg/Kg-dry	1	07-Dec-2018 19:0
Acenaphthylene	0.0035	<b>3 JQ</b>	0.0013	0.0041	mg/Kg-dry	1	07-Dec-2018 19:0
Anthracene	0.012		0.00063	0.0041	mg/Kg-dry	1	07-Dec-2018 19:04
Benz(a)anthracene	0.049		0.0020	0.0041	mg/Kg-dry	1	07-Dec-2018 19:04
Benzo(a)pyrene	0.060		0.0013	0.0041	mg/Kg-dry	1	07-Dec-2018 19:04
Benzo(b)fluoranthene	0.078		0.0015	0.0041	mg/Kg-dry	1	07-Dec-2018 19:0
Benzo(g,h,i)perylene	0.054		0.00088	0.0041	mg/Kg-dry	1	07-Dec-2018 19:04
Benzo(k)fluoranthene	0.031		0.0011	0.0041	mg/Kg-dry	1	07-Dec-2018 19:04
Chrysene	0.058		0.0010	0.0041	mg/Kg-dry	1	07-Dec-2018 19:04
Dibenz(a,h)anthracene	0.011		0.0020	0.0041	mg/Kg-dry	· 1	07-Dec-2018 19:0-
Fluoranthene	0.12		0.0014	0.0041	mg/Kg-dry	1	07-Dec-2018 19:04
Fluorene	0.0086		0.0014	0.0041	mg/Kg-dry	1	07-Dec-2018 19:04
Indeno(1,2,3-cd)pyrene	0.053		0.0010	0.0041	mg/Kg-dry	1	07-Dec-2018 19:0
Naphthalene	0.022		0.00075	0.0041	mg/Kg-dry	1	07-Dec-2018 19:0
Phenanthrene	0.084		0.0019	0.0041	mg/Kg-dry	1	07-Dec-2018 19:04
Pyrene	0.11		0.00075	0.0041	mg/Kg-dry	1	07-Dec-2018 19:04
Surr: 2-Fluorobiphenyl	100			43-125	%REC	1	07-Dec-2018 19:0-
Surr: 4-Terphenyl-d14	99.4			32-125	%REC	1	07-Dec-2018 19:0-
Surr: Nitrobenzene-d5	83.6			37-125	%REC	1	07-Dec-2018 19:0
PCBS BY SW8082A	anno anno an	Method:S\	V8082	(E	Prep:SW3541/36	65 <b>A</b> / 06-Dec	-2018 Analyst: MB(
Aroclor 1016	U		0.0053	0.021	mg/Kg-dry	1	07-Dec-2018 11:5
Aroclor 1221	U		0.0070	0.021	mg/Kg-dry	1	07-Dec-2018 11:5
Aroclor 1232	U		0.0056	0.021	mg/Kg-dry	1	07-Dec-2018 11:5
Aroclor 1242	U		0.0074	0.021	mg/Kg-dry	1	07-Dec-2018 11:5
Aroclor 1248	U		0.0074	0.021	mg/Kg-dry	1	07-Dec-2018 11:5
Aroclor 1254	U		0.0059	0.021	mg/Kg-dry	1	07-Dec-2018 11:5
Aroclor 1260	0.067		0.0050	0.021	mg/Kg-dry	1	07-Dec-2018 11:5
Surr: Decachlorobiphenyl	98.6			54-143	%REC	1	07-Dec-2018 11:5
Surr: Tetrachloro-m-xylene	99.9			50-140	%REC	1	07-Dec-2018 11:5
METALS BY SW6020A		Method:S\	V6020		Prep:SW3050A /	06-Dec-2018	Analyst: JC.
Arsenic	7.69	×*-1:	0.0812	0.580	mg/Kg-dry	1	07-Dec-2018 16:1
Cadmium	0.379	A JQ	0.0313	0.580	mg/Kg-dry	1	07-Dec-2018 16:1
Cobalt	7.91		0.0174	0.580	mg/Kg-dry	1	07-Dec-2018 16:1
Iron	14,000	**************************************	2.12	58.0	mg/Kg-dry		07-Dec-2018 16:1
Lead	7.79		0.0151	0.580	mg/Kg-dry		07-Dec-2018 16:1
Manganese	1,110		2.49	29.0	mg/Kg-dry	an account appropriate and annual	07-Dec-2018 17:5
MOISTURE - ASTM D2216	71.50 CO	ethod:AST		The state of the s	,		Analyst: DFI
Percent Moisture	20.5		0.0100	0.0100	wt%	1	06-Dec-2018 17:4

Note: See Qualifiers Page for a list of qualifiers and their explanation.



Client: Project: Weston Solutions, Inc.

FJ Doyle RA/TX

Sample ID:

FJD08-01-20181205-12-56

Collection Date:

05-Dec-2018 13:23

**ANALYTICAL REPORT** 

WorkOrder:HS18120264 Lab ID:HS18120264-02

Matrix:Soil

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL PAHS		Method:S	W8270		Prep:SW3541 / 0	5-Dec-2018	Analyst: GEY
Acenaphthene	0.016		0.00063	0,0041	mg/Kg-dry	1	08-Dec-2018 12:57
Acenaphthylene	0.0033	4 दांक	0.0013	0.0041	mg/Kg-dry	1	08-Dec-2018 12:57
Anthracene	0.0085		0.00063	0.0041	mg/Kg-dry	1	08-Dec-2018 12:57
Benz(a)anthracene	0.028	·····	0.0020	0.0041	mg/Kg-dry	1	08-Dec-2018 12:57
Benzo(a)pyrene	0.030		0.0013	0.0041	mg/Kg-dry	1	08-Dec-2018 12:57
Benzo(b)fluoranthene	0.044		0.0015	0.0041	mg/Kg-dry	1	08-Dec-2018 12:57
Benzo(g,h,i)perylene	0.025		0.00088	0.0041	mg/Kg-dry	1	08-Dec-2018 12:57
Benzo(k)fluoranthene	0.017	***************************************	0.0011	0.0041	mg/Kg-dry	1	08-Dec-2018 12:57
Chrysene	0.032		0.0010	0.0041	mg/Kg-dry	1	08-Dec-2018 12:57
Dibenz(a,h)anthracene	0.0068		0.0020	0.0041	mg/Kg-dry	1	08-Dec-2018 12:57
Fluoranthene	0.047		0.0014	0.0041	mg/Kg-dry	1	08-Dec-2018 12:57
Fluorene	0.0095		0.0014	0.0041	mg/Kg-dry	1	08-Dec-2018 12:57
Indeno(1,2,3-cd)pyrene	0.027		0.0010	0.0041	mg/Kg-dry	1	08-Dec-2018 12:57
Naphthalene	0.032	•••••	0.00075	0.0041	mg/Kg-dry	1	08-Dec-2018 12:57
Phenanthrene	0.037		0.0019	0.0041	mg/Kg-dry	1	08-Dec-2018 12:57
Pyrene	0.061		0.00075	0.0041	mg/Kg-dry	1	08-Dec-2018 12:57
Surr: 2-Fluorobiphenyl	84.4			43-125	%REC	1	08-Dec-2018 12:57
Surr: 4-Terphenyl-d14	96.5			32-125	%REC	1	08-Dec-2018 12:57
Surr: Nitrobenzene-d5	79.2			37-125	%REC	1	08-Dec-2018 12:57
PCBS BY SW8082A		Method:S	W8082	and the state of t	Prep:SW3541/366	55A / 06-Dec	-2018 Analyst: MBC
Aroclor 1016	U		0.0053	0.021	mg/Kg-dry		06-Dec-2018 20:00
Aroclor 1221	U		0.0071	0.021	mg/Kg-dry	1	06-Dec-2018 20:00
Aroclor 1232	. U		0.0057	0.021	mg/Kg-dry	1	06-Dec-2018 20:00
Aroclor 1242	U		0.0074	0.021	mg/Kg-dry	1	06-Dec-2018 20:00
Aroclor 1248	U		0.0074	0.021		1	06-Dec-2018 20:00
Aroclor 1254	U		0.0059	0.021		1	06-Dec-2018 20:00
Aroclor 1260	U		0.0050	0.021	mg/Kg-dry	1	06-Dec-2018 20:00
Surr: Decachlorobiphenyl	123			54-143	%REC	1	06-Dec-2018 20:00
Surr: Tetrachloro-m-xylene	98.8			50-140	%REC	1	06-Dec-2018 20:00
METALS BY SW6020A		Method:S	W6020		Prep:SW3050A /	06-Dec-2018	Analyst: JCJ
Arsenic	7.27		0.0854	0.610	mg/Kg-dry		07-Dec-2018 16:21
Cadmium	0.325	小辽向	0.0329	0.610	mg/Kg-dry		07-Dec-2018 16:21
Cobalt	17.8	74	0.0183	0.610	mg/Kg-dry		07-Dec-2018 16:21
Iron	30,300		223	6100	mg/Kg-dry		07-Dec-2018 17:55
Lead	29.0		0.0159	0.610	mg/Kg-dry		07-Dec-2018 16:21
Manganese	2,050		5.25	61.0	mg/Kg-dry		07-Dec-2018 17:55
MOISTURE - ASTM D2216		ethod:AST	entropy of the control of the contro				Analyst: DFF
Percent Moisture	21.1	ealou.A31	0.0100	0.0100	wt%	1	06-Dec-2018 17:44

Note: See Qualifiers Page for a list of qualifiers and their explanation.



Q 1/24/FI

5 of 22

SITE NAME Frank	J. Doyle Salvage Removal Action	on	
WORK ORDER NUM	BER 20600.012.001.1175.01	TDD NUMBER	0001/18-175
PROJECT NUMBER		_ SDG NUMBER	HS18120726
20600.012.001.1175.01; SI	(WESTON®) has completed OG No. HS18120726; Frank J. Ded Biphenyl Compounds (PCBs)	oyle Salvage Remo	val Action. Three samples were
	SAMPLE NUM	IBERS	
DRA028-20181212-16-56	FJD08-01-20181212-2	24-56 FJE	008-04-20181212-24-56
	<u> </u>		
USEPA National Functional National Functional Guid Laboratory Program Natio (April, 2016), Quality Assi	idated to determine if Quality Coal Guidelines for Organic Superfudelines for Inorganic Superfund onal Functional Guidelines for Interpretation of Guidelines for Hurance/Quality Control Guidance Holding Times, Blanks, and Vahe following discussion.	und Methods Data I Data Review (Jan High Resolution Su e for Removal Activ	Review (January, 2017), USEPA uary, 2017), USEPA Contract uperfund Methods Data Review vities (September, 2011), and/or
REVIEWER Gloria	a J. Switalski	DATE	January 25, 2019

#### **Data Qualifiers**

Data Qualifier Definitions were supplied by the Office of Solid Waste and Emergency Response (September 1989) and are included in the Functional Guidelines. Data qualifiers may be combined (UJ, QJ) with the corresponding combination of meanings. Additional qualifiers may be added to provide additional, more specific information (JL, UB, QJK), modifying the meaning of the primary qualifier. Additional qualifiers utilized by WESTON are H, L, K, B, and Q.

U - The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation or detection limit, which has been adjusted for sample weight/sample volume, extraction volume, percent solids, sample dilution or other analysis specific parameters.

An additional qualifier, "B", may be appended to indicate that while the analyte was detected in the sample, the presence of the analyte may be attributable to blank contamination and the analyte is therefore considered undetected with the sample detection or quantitation limit for the analyte being elevated.

J - The analyte was analyzed for, but the associated numerical value may not be consistent with the amount actually present in the environmental sample or may not be consistent with the sample detection or quantitation limit. The value is an estimated quantity. The data should be seriously considered for decision-making and are usable for many purposes.

An additional qualifier will be appended to the "J" qualifier that indicates the bias in the reported results:

- L Low bias
- H High bias
- K Unknown bias
- Q The reported concentration is less than the sample quantitation limit for the specific analyte in the sample.

The L and H qualifier will only be employed when a single qualification is required. When more than one quality control parameter affects the analytical result and a conflict results in assigning a bias, the result will be flagged JK.

- R Quality Control indicates that data are unusable for all purposes. The analyte was analyzed for, but the presence or absence of the analyte has not been verified. Resampling and reanalysis are necessary for verification to confirm or deny the presence of an analyte.
- N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

#### PCB FRACTION EVALUATION

### 1. Analytical Method:

Samples were prepared and analyzed for PCBs using the procedures specified in SW-846 Method 8082A.

#### 2. Holding Time:

The samples were received within the recommended ≤6°C NFG limit. All samples were extracted within the required holding time of less than 1 year after collection. Analysis of the samples was conducted within 40 days of extraction. No qualifications are placed on the data.

#### 3. Initial Calibration:

The correlation coefficient of the multipoint initial calibration was greater than or equal to 0.995 or the percent relative standard deviation (%RSD) was less than or equal to 20%. No qualifications are placed on the data.

#### 4. Continuing Calibration:

The continuing calibration check was analyzed at the required frequency and met recovery requirements of 75%-125% [percent difference (%D) was less than 25%]. No qualifications are placed on the data.

#### 5. Blanks:

#### A. Laboratory Blanks:

A method blank was prepared at the required frequency of every time samples were extracted for each matrix and concentration or every 20 samples whichever is greater. No target analytes were detected in the method blanks at concentrations that warrant blank action. No qualifications are placed on the data.

### B. Field Blanks:

No field blank samples were submitted with this analytical package. No qualifications are placed on the data.

#### 6. Surrogates:

All recoveries of the surrogates were within the control limits provided. No qualifications are placed on the data.

### 7. Matrix Spikes/Matrix Spike Duplicates (MS/MSD):

Sample DRA028-20181212-16-56 underwent MS/MSD analysis for the solid matrix. Recoveries of all spiked analytes were within the control limits provided. No qualifications are placed on the data.

#### 8. Duplicates:

### A. Laboratory Duplicate Analysis:

Sample DRA028-20181212-16-56 underwent MS/MSD analysis for the solid matrix. QC criteria are that the relative percent difference (RPD) values for the duplicate sample analysis are less than 20% for aqueous samples and less than 35% for solid samples. All QC criteria were met. No qualifications are placed on the data.

### B. Field Duplicate Analysis:

No field duplicate samples were submitted with this analytical package. No qualifications are placed on the data.

### 9. Laboratory Control Sample (LCS):

The laboratory analyzed an LCS and recoveries were within the control limits provided. No qualifications are placed on the data.

#### 10. Target Compound Identification, Quantitation, and Reporting Limits:

Concentrations of all reported compounds were correctly calculated.

The %D between the column results were within the acceptance limits (≤25). No qualifications are placed on the data.

#### 11. Laboratory Contact:

No laboratory contact was required

#### 12. Overall Assessment:

The analytical data is acceptable for use without qualification.

SITE NAME	Frank J. Doy	le Salvage Removal Actio	n	
WORK ORDEI	R NUMBER	20600.012.001.1175.01	TDD NUMBER	0001/18-175
PROJECT NUM	MBER		SDG NUMBER	HS18120726
20600.012.001.117	5.01; SDG No.	HS18120726; Frank J. Do	oyle Salvage Remo	for Work Order Number val Action. Three samples were ental. Sample numbers are listed
		SAMPLE NUM	BERS	
DRA028-20181212-	-16-56	FJD08-01-20181212-2	4-56 FJI	008-04-20181212-24-56
USEPA National Fi National Functional Laboratory Progra (April, 2016), Qual	unctional Guide al Guidelines f m National Fu lity Assurance/Ç col for Holdin	elines for Organic Superfu for Inorganic Superfund inctional Guidelines for H Quality Control Guidance g Times, Blanks, and V	nd Methods Data I Data Review (Jar High Resolution Si for Removal Activ	ations were achieved, following Review (January, 2017), USEPA nuary, 2017), USEPA Contract uperfund Methods Data Review vities (September, 2011), and/or (April 13, 1989). Specific data
DEVIEWED	Gloria I Swit	talski	DATE	January 20, 2010

#### **Data Qualifiers**

Data Qualifier Definitions were supplied by the Office of Solid Waste and Emergency Response (September 1989) and are included in the Functional Guidelines. Data qualifiers may be combined (UJ, QJ) with the corresponding combination of meanings. Additional qualifiers may be added to provide additional, more specific information (JL, UB, QJK), modifying the meaning of the primary qualifier. Additional qualifiers utilized by WESTON are H, L, K, B, and Q.

U - The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation or detection limit, which has been adjusted for sample weight/sample volume, extraction volume, percent solids, sample dilution or other analysis specific parameters.

An additional qualifier, "B", may be appended to indicate that while the analyte was detected in the sample, the presence of the analyte may be attributable to blank contamination and the analyte is therefore considered undetected with the sample detection or quantitation limit for the analyte being elevated.

J - The analyte was analyzed for, but the associated numerical value may not be consistent with the amount actually present in the environmental sample or may not be consistent with the sample detection or quantitation limit. The value is an estimated quantity. The data should be seriously considered for decision-making and are usable for many purposes.

An additional qualifier will be appended to the "J" qualifier that indicates the bias in the reported results:

- L Low bias
- H High bias
- K Unknown bias
- Q The reported concentration is less than the sample quantitation limit for the specific analyte in the sample.

The L and H qualifier will only be employed when a single qualification is required. When more than one quality control parameter affects the analytical result and a conflict results in assigning a bias, the result will be flagged JK.

- R Quality Control indicates that data are unusable for all purposes. The analyte was analyzed for, but the presence or absence of the analyte has not been verified. Resampling and reanalysis are necessary for verification to confirm or deny the presence of an analyte.
- N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

#### PAH FRACTION EVALUATION

### 1. Analytical Method:

Samples were prepared and analyzed using the procedures specified in SW-846 Method 8270D selective ion monitoring (SIM).

### 2. Holding Time:

The samples were received within the recommended  $\leq$ 6°C NFG limit. All samples were extracted within the required holding time of less than 7 days for waters and less than 14 days for solids/wastes after collection. Analysis of the samples was conducted within 40 days of extraction. No qualifications are placed on the data.

### 3. Tuning/Performance:

DFTPP tuning of the mass spectrometer(s) was conducted at the required frequency and results were within the required criteria. No qualifications are placed on the data.

#### 4. Initial Calibration:

All individual relative response factors (RRFs) and average RRFs for the initial calibration (IC) were greater than the compound dependent (see Table 34 of National Functional Guidelines) control limits. All percent relative standard deviations (%RSDs) were less than the compound dependent (see Table 34 of National Functional Guidelines) control limits or the correlation coefficient was > 0.990. No qualifications are placed on the data.

### 5. Continuing Calibration:

All individual RRFs for the initial calibration verification (ICV) and continuing calibration (CC) standards were greater than the compound dependent (see Table 34 of National Functional Guidelines) control limits. All percent differences (%Ds) were less than the compound dependent (see Table 34 of National Functional Guidelines) control limits. No qualifications are placed on the data.

#### 6. Blanks:

### A. Laboratory Blanks:

A method blank was prepared at the required frequency of every time samples were extracted for each matrix and concentration or every 20 samples whichever is greater. Target analytes were not detected in the method at concentrations that warrant blank action. No qualifications are placed on the data.

#### B Field Blanks:

No field blank samples were submitted with this analytical package. No qualifications are placed on the data.

#### 7. System Monitoring Compounds (SMC):

All recoveries of the system monitoring compounds (surrogates) were within the control limits provided. No qualifications are placed on the data.

### 8. Duplicates:

### A. Laboratory Duplicate Analysis:

Sample DRA028-20181212-16-56 underwent matrix spike/matrix spike duplicate (MS/MSD) analysis for the solid matrix. QC criteria are that the relative percent difference (RPD) values for the duplicate sample analysis are less than 20% for aqueous samples and less than 35% for solid samples. All QC criteria were met. No qualifications are placed on the data.

### B. Field Duplicate Analysis:

No field duplicate samples were submitted with this analytical package. No qualifications are placed on the data.

### 9. Matrix Spike/Matrix Spike Duplicate:

Sample DRA028-20181212-16-56 underwent MS/MSD analysis for the solid matrix. Recoveries of all spiked analytes were within the control limits provided in both the matrix spike and matrix spike duplicate. No qualifications are placed on the data.

#### 10. Internal Standards:

Areas of the six internal standards were within the control limits of a factor of 2 (-50% to +100%) and retention times were within 30 seconds from the associated 12 hour calibration standard. No qualifications are placed on the data.

### 11. Laboratory Control Sample (LCS):

The laboratory analyzed an LCS and recoveries were within the control limits provided. No qualifications are placed on the data.

#### 12. Target Compound Identification:

All target compounds reported by the laboratory met identification criteria of relative retention times (RRT) within 0.06 RRT units of the 12 hour standard and that all ions present in the standard mass spectrum were present in the sample mass spectrum and the abundance of these ions agreed within  $\pm$  20% of the standard. No qualifications are placed on the data.

### 13. Target Compound Quantitation and Reporting Limits:

Concentrations of all reported compounds were correctly calculated.

Reported concentrations less than the reporting limit (RL) qualified "J" by the laboratory are qualified "JQ" to indicate that the result is less than the RL but greater than the method detection limit (MDL).

#### 14. Laboratory Contact:

The laboratory was contacted on January 25, 2019 regarding an incorrect sample weight on a quantitation report. An acceptable response was received on January 28, 2019.

### 15. Overall Assessment

Reported concentrations less than the RL qualified "J" by the laboratory were qualified "JQ" to indicate that the result is less than the RL but greater than the MDL.

The analytical data is acceptable for use with the qualifications listed above.

SITE NAME Frank J. D	oyle Salvage Removal Action	on	
WORK ORDER NUMBER	20600.012.001.1175.01	TDD NUMBER	0001/18-175
PROJECT NUMBER		SDG NUMBER	HS18120726
Weston Solutions, Inc. (WI 20600.012.001.1175.01; SDG N analyzed for metals (As, Cd, Co,	o. HS18120726; Frank J. D	oyle Salvage Remov	val Action. Three samples were
	SAMPLE NUM	IBERS	
DRA028-20181212-16-56	FJD08-01-20181212-2	.4-56 FJD	08-04-20181212-24-56
This data package was validated USEPA National Functional Guidelines Laboratory Program National (April, 2016), Quality Assurance the Regional Protocol for Holoqualifications are listed in the form	idelines for Organic Superfi s for Inorganic Superfund Functional Guidelines for I e/Quality Control Guidance ling Times, Blanks, and V	und Methods Data R Data Review (Janu High Resolution Sup of for Removal Activi	deview (January, 2017), USEPA pary, 2017), USEPA Contract perfund Methods Data Review ities (September, 2011), and/or
REVIEWER Gloria J. Sv		DATE	January 25, 2019

# **Data Qualifiers**

Data Qualifier Definitions were supplied by the Office of Solid Waste and Emergency Response (September 1989) and are included in the Functional Guidelines. Data qualifiers may be combined (UJ, QJ) with the corresponding combination of meanings. Additional qualifiers may be added to provide additional, more specific information (JL, UB, QJK), modifying the meaning of the primary qualifier. Additional qualifiers utilized by WESTON are H, L, K, B, and Q.

U - The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation or detection limit, which has been adjusted for sample weight/sample volume, extraction volume, percent solids, sample dilution or other analysis specific parameters.

An additional qualifier, "B", may be appended to indicate that while the analyte was detected in the sample, the presence of the analyte may be attributable to blank contamination and the analyte is therefore considered undetected with the sample detection or quantitation limit for the analyte being elevated.

J - The analyte was analyzed for, but the associated numerical value may not be consistent with the amount actually present in the environmental sample or may not be consistent with the sample detection or quantitation limit. The value is an estimated quantity. The data should be seriously considered for decision-making and are usable for many purposes.

An additional qualifier will be appended to the "J" qualifier that indicates the bias in the reported results:

- L Low bias
- H High bias
- K Unknown bias
- Q The reported concentration is less than the sample quantitation limit for the specific analyte in the sample.

The L and H qualifier will only be employed when a single qualification is required. When more than one quality control parameter affects the analytical result and a conflict results in assigning a bias, the result will be flagged JK.

- R Quality Control indicates that data are unusable for all purposes. The analyte was analyzed for, but the presence or absence of the analyte has not been verified. Resampling and reanalysis are necessary for verification to confirm or deny the presence of an analyte.
- N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

#### METALS DATA EVALUATION

### 1. Analytical Method:

Samples were prepared and analyzed for ICP metals using the procedures specified in SW-846 Method 6020A.

# 2. Holding Times:

All samples met established holding time criteria of 180 days for ICP metals. No qualifications are placed on the data.

#### 3. Initial Calibration:

ICP initial calibration included a blank and five standards and initial calibration verification results fell within the control limits of 90% to 110% of the true values. No qualifications are placed on the data.

# 4. Continuing Calibration:

All ICP results fell within the control limits of 90% to 110% of the true values. No qualifications are placed on the data.

#### 5. CRDL Standard:

All results for the CRDL standard were within the control limits of 70% to 130% of the true values or the sample results were greater than the CRDL action level. No qualifications are placed on the data.

#### 6. Blanks:

#### A. Laboratory Blanks:

A method blank was prepared at the required frequency of every time samples were prepared/digested for each matrix or every 20 samples whichever is greater. Target analytes were not detected in the method and calibration blanks at concentrations that warrant blank action. No qualifications are placed on the data.

#### B. Field Blanks:

No field blank samples were submitted with this analytical package. No qualifications are placed on the data.

### 7. ICP Interference Check:

All results for the interference check sample were within the control limits of 80% to 120% of the true values. No qualifications are placed on the data.

#### 8. Laboratory Control Sample (LCS):

The recoveries for the LCS were within the control limits provided. No qualifications are placed on the data.

# 9. Duplicate Sample Analysis:

# A. Laboratory Duplicate Analysis:

No sample from this analytical package underwent matrix spike/matrix spike duplicate (MS/MSD) analysis. No qualifications are placed on the data.

# B. Field Duplicate Analysis:

No field duplicate samples were submitted with this analytical package. No qualifications are placed on the data.

# 10. Spiked Sample Analysis:

No sample from this analytical package underwent MS/MSD analysis. No qualifications are placed on the data.

#### 11. ICP Serial Dilution:

No sample from this analytical package underwent serial dilution. No qualifications are placed on the data.

# 12. Sample Quantitation and Reporting Limits:

Concentrations of all reported analytes were correctly calculated.

Reported concentrations less than the reporting limit (RL) qualified "J" by the laboratory are qualified "JQ" to indicate that the result is less than the RL but greater than the MDL.

Some ICP metals analytes in some samples were analyzed at a 100-fold dilution. Reporting limits for these analytes in these samples were elevated as a result of the dilutions performed.

# 13. Laboratory Contact

No laboratory contact was required.

#### 14. Overall Assessment:

Reported concentrations less than the RL qualified "J" by the laboratory were qualified "JQ" to indicate that the result is less than the RL but greater than the MDL.

The analytical data is acceptable for use with the qualifications listed above.

Client: Project: Weston Solutions, Inc.

Sample ID:

FJ Doyle RA/TX

Collection Date:

12-Dec-2018 11:15

DRA028-20181212-16-56

**ANALYTICAL REPORT** 

WorkOrder:HS18120726 Lab ID:HS18120726-01

Matrix:Soil

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL PAHS		Method:S\	V8270		Prep:SW3541 / 1	3-Dec-2018	Analyst: GEY
Acenaphthene	U		0.00065	0.0043	mg/Kg-dry	1	13-Dec-2018 17:03
Acenaphthylene	U		0.0013	0.0043	mg/Kg-dry	1	13-Dec-2018 17:03
Anthracene	U	1	0.00065	0.0043	mg/Kg-dry	1	13-Dec-2018 17:03
Benz(a)anthracene	0.0052		0.0021	0.0043	mg/Kg-dry	1	13-Dec-2018 17:03
Benzo(a)pyrene	0.0077		0.0013	0.0043	mg/Kg-dry	1	13-Dec-2018 17:03
Benzo(b)fluoranthene	0.014		0.0016	0.0043	mg/Kg-dry	1	13-Dec-2018 17:03
Benzo(g,h,i)perylene	0.0083	1	0.00091	0.0043	mg/Kg-dry	1	13-Dec-2018 17:03
Benzo(k)fluoranthene	0.0043		0.0012	0.0043	mg/Kg-dry	1	13-Dec-2018 17:03
Chrysene	0.0065		0.0010	0.0043	mg/Kg-dry	1	13-Dec-2018 17:03
Dibenz(a,h)anthracene	0.0042	~JR	0.0021	0.0043	mg/Kg-dry	1	13-Dec-2018 17:03
Fluoranthene	0.0060	`	0.0014	0.0043	mg/Kg-dry	1	13-Dec-2018 17:03
Fluorene	U		0.0014	0.0043	mg/Kg-dry	1	13-Dec-2018 17:03
Indeno(1,2,3-cd)pyrene	0.0083		0.0010	0.0043	mg/Kg-dry	1	13-Dec-2018 17:03
Naphthalene	U		0.00078	0.0043	mg/Kg-dry	1	13-Dec-2018 17:03
Phenanthrene	U		0.0019	0.0043	mg/Kg-dry	1	13-Dec-2018 17:03
Pyrene	0.0062	its da a recentita di titi ferrecenhedi titi cen cene a a sec. P	0.00078	0.0043	mg/Kg-dry	1	13-Dec-2018 17:03
Surr: 2-Fluorobiphenyl	68.9			43-125	%REC	1	13-Dec-2018 17:03
Surr: 4-Terphenyl-d14	79.1	one activis acceptation in more regulation in more man	to the second control of the second control	32-125	%REC	1	13-Dec-2018 17:03
Surr: Nitrobenzene-d5	72.4			37-125	%REC	1	13-Dec-2018 17:03
PCBS BY SW8082A		Method:SV	V8082		Prep:SW3541/36	65A / 13-Dec	-2018 Analyst: JLJ
Aroclor 1016	U		0.0054	0.022	mg/Kg-dry	1	13-Dec-2018 17:13
Aroclor 1221	U		0.0073	0.022	mg/Kg-dry	1	13-Dec-2018 17:13
Aroclor 1232	U		0.0058	0.022	mg/Kg-dry	1	13-Dec-2018 17:13
Aroclor 1242	U		0.0077	0.022	mg/Kg-dry	1	13-Dec-2018 17:13
Aroclor 1248	U		0.0077	0.022	mg/Kg-dry	1	13-Dec-2018 17:13
Aroclor 1254	U		0.0061	0.022	mg/Kg-dry	1	13-Dec-2018 17:13
Aroclor 1260	0.42		0.0052	0.022	mg/Kg-dry	1	13-Dec-2018 17:13
Surr: Decachlorobiphenyl	123	•		54-143	%REC	1	13-Dec-2018 17:13
Surr: Tetrachloro-m-xylene	126			50-140	%REC	1	13-Dec-2018 17:13
METALS BY SW6020A		Method:S\	N6020		Prep:SW3050A	12-Dec-2018	Analyst: JCJ
Arsenic	6.71		0.0871	0.622	mg/Kg-dry	1	13-Dec-2018 20:34
Cadmium	0.406	ナスマ	0.0336	0.622	mg/Kg-dry	1	13-Dec-2018 20:34
Cobalt	16.1		0.0187	0.622	mg/Kg-dry	1	13-Dec-2018 20:34
lron .	30,500		228	6220	mg/Kg-dry	100	14-Dec-2018 13:54
Lead	31.8		0.0162	0.622	mg/Kg-dry	1	13-Dec-2018 20:34
Manganese	2,480		5.35	62.2	mg/Kg-dry	100	14-Dec-2018 13:54
MOISTURE - ASTM D2216	N	lethod:AST	M D2216				Analyst: DFF
Percent Moisture	23.6		0.0100	0.0100	wt%	1	13-Dec-2018 11:31

Note: See Qualifiers Page for a list of qualifiers and their explanation.



Date: 14-Dec-18

Client:

Weston Solutions, Inc.

FJD08-01-20181212-24-56

Project: Sample ID: FJ Doyle RA/TX

Collection Date:

12-Dec-2018 07:37

**ANALYTICAL REPORT** 

WorkOrder:HS18120726 Lab ID:HS18120726-02

Matrix:Soil

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL PAHS		Method:	SW8270		Prep;SW3541 / 1	3-Dec-2018	Analyst GE
Acenaphthene	U		0.00064	0.0043	mg/Kg-dry	1	13-Dec-2018 18:39
Acenaphthylene	U	* ***	0.0013	0.0043	mg/Kg-dry	1	13-Dec-2018 18:39
Anthracene	U		0.00064	0.0043	mg/Kg-dry	1	13-Dec-2018 18:39
Benz(a)anthracene	U	1 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1	0.0021	0.0043	mg/Kg-dry	1	13-Dec-2018 18:39
Benzo(a)pyrene	0.0015	450	0.0013	0.0043	mg/Kg-dry	1	13-Dec-2018 18:39
Benzo(b)fluoranthene	0.0028	1	0.0015	0.0043	mg/Kg-dry	1	13-Dec-2018 18:39
Benzo(g,h,i)perylene	0.0017	7	<sup>&gt;</sup> 0.00090	0.0043	mg/Kg-dry	1	13-Dec-2018 18:39
Benzo(k)fluoranthene	U	Personander voor (Personance) in 1998 in 19	0.0012	0.0043	mg/Kg-dry	1	13-Dec-2018 18:3
Chrysene	0.0011	J 16	0.0010	0.0043	mg/Kg-dry	1	13-Dec-2018 18:39
Dibenz(a,h)anthracene	U	8. i. i. 25. i 26. 200 e 200 i 200 e 2	0.0021	. 0.0043	mg/Kg-dry	1	13-Dec-2018 18:3
Fluoranthene	U		0.0014	0.0043	mg/Kg-dry	1	13-Dec-2018 18:39
Fluorene	U		0.0014	0.0043	mg/Kg-dry	1	13-Dec-2018 18:39
Indeno(1,2,3-cd)pyrene	0.0014	DEG	0.0010	0.0043	mg/Kg-dry	1	13-Dec-2018 18:39
Naphthalene	U	COLUMB Medical COMPANIA - A consequent abbo	0.00077	0.0043	mg/Kg-dry	1	13-Dec-2018 18:39
Phenanthrene	U		0.0019	0.0043	mg/Kg-dry	1	13-Dec-2018 18:39
Pyrene	0.00097	ত গ্র	<b>\$</b> 0.00077	0.0043	mg/Kg-dry	1	13-Dec-2018 18:3
Surr: 2-Fluorobiphenyl	72.3		•	43-125	%REC	1	13-Dec-2018 18:3
Surr: 4-Terphenyl-d14	89.9	and an extension of the state o		32-125	%REC	1	13-Dec-2018 18:3
Surr: Nitrobenzene-d5	74.5			37-125	%REC	1	13-Dec-2018 18:3
PCBS BY SW8082A	-12	Method:	SW8082	Committee of the commit	Prep:SW3541/36	65A / 13-Dec	-2018 Analyst: JLJ
Aroclor 1016	U		0.0054	0.021	mg/Kg-dry	1	13-Dec-2018 18:0
Aroclor 1221	U		0.0072	0.021	mg/Kg-dry	1	13-Dec-2018 18:0
Aroclor 1232	U		0.0058	0.021	mg/Kg-dry	1	13-Dec-2018 18:0
Aroclor 1242	U		0.0076	0.021	mg/Kg-dry	1	13-Dec-2018 18:0
Aroclor 1248	U		0.0076	0.021	mg/Kg-dry	1	13-Dec-2018 18:0
Aroclor 1254	U		0.0060	0.021	mg/Kg-dry	1	13-Dec-2018 18:0
Aroclor 1260	0.021	±3€	<b>5</b> → 0.0051	0.021	mg/Kg-dry	1	13-Dec-2018 18:0
Surr: Decachlorobiphenyl	131	a		54-143	%REC	1	13-Dec-2018 18:0
Surr: Tetrachloro-m-xylene	133			50-140	%REC	1	13-Dec-2018 18:0
METALS BY SW6020A	Control of the Contro	Method:	SW6020	100 C	Prep SW3050A /	12-Dec-2018	Analyst: JC.
Arsenic	6.88		0.0882	0.630	mg/Kg-dry		13-Dec-2018 20:3
Cadmium	0.331	430		0.630	mg/Kg-dry		13-Dec-2018 20:3
Cobalt	20.4		0.0189	0.630	mg/Kg-dry		13-Dec-2018 20:3
Iron	33,600	Mp -1.55 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	231	6300	mg/Kg-dry		14-Dec-2018 13:5
Lead	22.9		0.0164	0.630	mg/Kg-dry		13-Dec-2018 20:3
Manganese	3,070		5.42	63.0	mg/Kg-dry		14-Dec-2018 13:5
MOISTURE - ASTM D2216	21-4 en 2000 en 180	Wethod: A S	STM D2216				Analyst: DFI
Percent Moisture	23.4	neurou.Ac	0.0100	0.0100	wt%	1	13-Dec-2018 11:3

Note: See Qualifiers Page for a list of qualifiers and their explanation.



Client: Project: Weston Solutions, Inc.

FJ Doyle RA/TX

Sample ID:

FJD08-04-20181212-24-56

Collection Date:

12-Dec-2018 07:34

**ANALYTICAL REPORT** 

WorkOrder:HS18120726 Lab ID:HS18120726-03

Matrix:Soil

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL PAHS		Method:	:SW8270		Prep SW3541 / 1	3-Dec-2018	Analyst: GEY
Acenaphthene	U		0.00065	0.0043	mg/Kg-dry	1	13-Dec-2018 17:41
Acenaphthylene	U		0.0013	0.0043	mg/Kg-dry	1	13-Dec-2018 17:41
Anthracene	U		0.00065	0.0043	mg/Kg-dry	1	13-Dec-2018 17:41
Benz(a)anthracene	U	Mileson V. Br. Alicens a coldination	0.0021	0.0043	mg/Kg-dry	1	13-Dec-2018 17:41
Benzo(a)pyrene	U		0.0013	0.0043	mg/Kg-dry	1	13-Dec-2018 17:41
Benzo(b)fluoranthene	U	Volume 1864 A	0.0016	0.0043	mg/Kg-dry	1 .	13-Dec-2018 17:41
Benzo(g,h,i)perylene	U		0.00091	0.0043	mg/Kg-dry	1	13-Dec-2018 17:41
Benzo(k)fluoranthene	U	or angeweggenere aggregopopopopopopo	0.0012	0.0043	mg/Kg-dry	1	13-Dec-2018 17:41
Chrysene	U		0.0010	0.0043	mg/Kg-dry	1	13-Dec-2018 17:41
Dibenz(a,h)anthracene	Ŭ	terrecords and control of the through at the community	0.0021	0.0043	mg/Kg-dry	1	13-Dec-2018 17:41
Fluoranthene	U		0.0014	0.0043	mg/Kg-dry	1	13-Dec-2018 17:41
Fluorene	U	(Various and Various and Control of Control	0.0014	0.0043	mg/Kg-dry	1	13-Dec-2018 17:41
Indeno(1,2,3-cd)pyrene	U		0.0010	0.0043	mg/Kg-dry	1	13-Dec-2018 17:41
Naphthalene	U	***************************************	0.00078	0.0043	mg/Kg-dry	1	13-Dec-2018 17:41
Phenanthrene	U		0.0019	0.0043	mg/Kg-dry	1	13-Dec-2018 17:41
Pyrene	U		0.00078	0.0043	mg/Kg-dry	1	13-Dec-2018 17:41
Surr: 2-Fluorobiphenyl	68.0			43-125	%REC	1	13-Dec-2018 17:41
Surr: 4-Terphenyl-d14	79.5	***************************************	and the second s	32-125	%REC	1	13-Dec-2018 17:41
Surr: Nitrobenzene-d5	69.9			37-125	%REC	1	13-Dec-2018 17:41
CBS BY SW8082A	grav.	Method:	:SW8082	F-67, 45	Prep:SW3541/36	65A / 13-Dec	-2018 Analyst: JLJ
Aroclor 1016	U		0.0054	0.022	mg/Kg-dry	1	13-Dec-2018 18:17
Aroclor 1221	U		0.0072	0.022	mg/Kg-dry	1	13-Dec-2018 18:17
Arodor 1232	U		0.0058	0.022	mg/Kg-dry	1	13-Dec-2018 18:17
Aroclor 1242	U		0.0076	0.022	mg/Kg-dry	1	13-Dec-2018 18:17
Arodor 1248	U		0.0076	0.022	mg/Kg-dry	1	13-Dec-2018 18:17
Aroclor 1254	U		0.0061	0.022	mg/Kg-dry	1	13-Dec-2018 18:17
Aroclor 1260	0.040		0.0052	0.022	mg/Kg-dry	1	13-Dec-2018 18:17
Surr: Decachlorobiphenyl	128			54-143	%REC	1	13-Dec-2018 18:17
Surr: Tetrachloro-m-xylene	125			50-140	%REC	1	13-Dec-2018 18:17
METALS BY SW6020A		Method	:SW6020		Prep:SW3050A	12-Dec-2018	Analyst: JCJ
Arsenic	5.83		0.0844	0.603	mg/Kg-dry	1	13-Dec-2018 20:39
Cadmium	0.312	死七	Q 0.0326	. 0.603	mg/Kg-dry	1	13-Dec-2018 20:39
Cobalt	14.7		0.0181	0.603	mg/Kg-dry	1	13-Dec-2018 20:39
ron	30,900		221	6030	mg/Kg-dry	100	14-Dec-2018 13:59
Lead	21.9		0.0157	0.603	mg/Kg-dry	1	13-Dec-2018 20:39
Manganese	1,690		5.19	60.3	mg/Kg-dry	100	14-Dec-2018 13:59
MOISTURE - ASTM D2216		Method:A	STM D2216	7.27			Analyst: DFF
Percent Moisture	23.9		0.0100	0.0100	wt%	1	13-Dec-2018 11:31

Note: See Qualifiers Page for a list of qualifiers and their explanation.



8 1/5/19

# DATA QUALITY ASSURANCE REVIEW

SITE NAME Frank J. Doy	le Salvage Removal Actio	n	
WORK ORDER NUMBER	20600.012.001.1175.01	TDD NUMBER	0001/18-175
PROJECT NUMBER		SDG NUMBER	HS18120969
Weston Solutions, Inc. (WES 20600.012.001.1175.01; SDG No. analyzed for Polychlorinated Biphebelow.	HS18120969; Frank J. Do	yle Salvage Remov	
	SAMPLE NUM	BERS	
DRA028-20181217-24-56	EAS06-20181217-24-5	6 EAS	506-20181217-24-57
	· -		
This data package was validated to USEPA National Functional Guide	elines for Organic Superfu	nd Methods Data R	eview (January, 2017), USEP
National Functional Guidelines f Laboratory Program National Fu (April, 2016), Quality Assurance/9 the Regional Protocol for Holdin qualifications are listed in the follo	nctional Guidelines for F Quality Control Guidance g Times, Blanks, and V	High Resolution Sup for Removal Activi	perfund Methods Data Revieities (September, 2011), and/o
PEVIEWER Gloria I Swi	taleki	DATE	February 1, 2010

# **Data Qualifiers**

Data Qualifier Definitions were supplied by the Office of Solid Waste and Emergency Response (September 1989) and are included in the Functional Guidelines. Data qualifiers may be combined (UJ, QJ) with the corresponding combination of meanings. Additional qualifiers may be added to provide additional, more specific information (JL, UB, QJK), modifying the meaning of the primary qualifier. Additional qualifiers utilized by WESTON are H, L, K, B, and Q.

U - The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation or detection limit, which has been adjusted for sample weight/sample volume, extraction volume, percent solids, sample dilution or other analysis specific parameters.

An additional qualifier, "B", may be appended to indicate that while the analyte was detected in the sample, the presence of the analyte may be attributable to blank contamination and the analyte is therefore considered undetected with the sample detection or quantitation limit for the analyte being elevated.

J - The analyte was analyzed for, but the associated numerical value may not be consistent with the amount actually present in the environmental sample or may not be consistent with the sample detection or quantitation limit. The value is an estimated quantity. The data should be seriously considered for decision-making and are usable for many purposes.

An additional qualifier will be appended to the "J" qualifier that indicates the bias in the reported results:

- L Low bias
- H High bias
- K Unknown bias
- Q The reported concentration is less than the sample quantitation limit for the specific analyte in the sample.

The L and H qualifier will only be employed when a single qualification is required. When more than one quality control parameter affects the analytical result and a conflict results in assigning a bias, the result will be flagged JK.

- R Quality Control indicates that data are unusable for all purposes. The analyte was analyzed for, but the presence or absence of the analyte has not been verified. Resampling and reanalysis are necessary for verification to confirm or deny the presence of an analyte.
- N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

#### PCB FRACTION EVALUATION

# 1. Analytical Method:

Samples were prepared and analyzed for PCBs using the procedures specified in SW-846 Method 8082A.

#### 2. Holding Time:

The samples were received within the recommended ≤6°C NFG limit. All samples were extracted within the required holding time of less than 1 year after collection. Analysis of the samples was conducted within 40 days of extraction. No qualifications are placed on the data.

# 3. Initial Calibration:

The correlation coefficient of the multipoint initial calibration was greater than or equal to 0.995 or the percent relative standard deviation (%RSD) was less than or equal to 20%. No qualifications are placed on the data.

# 4. Continuing Calibration:

The continuing calibration check was analyzed at the required frequency and met recovery requirements of 75%-125% [percent difference (%D) was less than 25%]. No qualifications are placed on the data.

#### 5. Blanks:

#### A. Laboratory Blanks:

A method blank was prepared at the required frequency of every time samples were extracted for each matrix and concentration or every 20 samples whichever is greater. No target analytes were detected in the method blanks at concentrations that warrant blank action. No qualifications are placed on the data.

# B. Field Blanks:

No field blank samples were submitted with this analytical package. No qualifications are placed on the data.

# 6. Surrogates:

All recoveries of the surrogates were within the control limits provided. No qualifications are placed on the data.

# 7. Matrix Spikes/Matrix Spike Duplicates (MS/MSD):

Sample DRA028-20181217-24-56 underwent MS/MSD analysis for the solid matrix. Recoveries of all spiked analytes were within the control limits provided. No qualifications are placed on the data.

# 8. Duplicates:

# A. Laboratory Duplicate Analysis:

Sample DRA028-20181217-24-56 underwent MS/MSD analysis for the solid matrix. QC criteria are that the relative percent difference (RPD) values for the duplicate sample analysis are less than 20% for aqueous samples and less than 35% for solid samples. All QC criteria were met. No qualifications are placed on the data.

# B. Field Duplicate Analysis:

The following sample pair was submitted as field duplicates for the solid matrix: EAS06-20181217-24-56/EAS06-20181217-24-57. QC criteria are that the RPD values for the field duplicate sample analysis be less than 30% for aqueous samples and less than 50% for solid samples for concentrations greater than five times the reporting limit (RL). For sample concentrations less than five times the RL, the QC criteria are that the absolute difference between the samples is less than two times the RL for aqueous samples or less than 3.5 times the RL for the solid matrix. All QC criteria were met. No qualifications are placed on the data.

# 9. Laboratory Control Sample (LCS):

The laboratory analyzed an LCS and recoveries were within the control limits provided. No qualifications are placed on the data.

# 10. Target Compound Identification, Quantitation, and Reporting Limits:

Concentrations of all reported compounds were correctly calculated.

The %D between the column results were within the acceptance limits (≤25). No qualifications are placed on the data.

Reported concentrations less than the reporting limit (RL) qualified "J" by the laboratory are qualified "JQ" to indicate that the result is less than the RL but greater than the method detection limit (MDL).

# 11. Laboratory Contact:

The laboratory was contacted on January 25, 2019 regarding discrepancies between the sample weights and volumes used on the run log and quantitation reports. An acceptable response was received on January 31, 2019.

#### 12. Overall Assessment:

Reported concentrations less than the RL qualified "J" by the laboratory were qualified "JQ" to indicate that the result is less than the RL but greater than the MDL.

The analytical data is acceptable for use with the qualifications listed above.

# DATA QUALITY ASSURANCE REVIEW

SITE NAME	Frank J. Doy	le Salvage Removal Actio	n	
WORK ORDEI	R NUMBER	20600.012.001.1175.01	TDD NUMBER	0001/18-175
PROJECT NUM	MBER		SDG NUMBER	HS18120969
20600.012.001.117	5.01; SDG No.	HS18120969; Frank J. Do	oyle Salvage Remo	for Work Order Number eval Action. Three samples were ental. Sample numbers are listed
		SAMPLE NUM	BERS	
DRA028-20181217-	-24-56	EAS06-20181217-24-5	56 <u>EA</u>	S06-20181217-24-57
		•		
USEPA National Functional National Functional Laboratory Program (April, 2016), Qual	unctional Guid ul Guidelines j m National Fu lity Assurance/ col for Holdin	elines for Organic Superfu for Inorganic Superfund anctional Guidelines for I Quality Control Guidance g Times, Blanks, and V	ind Methods Data I Data Review (Jar High Resolution Si for Removal Activ	ations were achieved, following <i>Review</i> (January, 2017), <i>USEPA</i> nuary, 2017), <i>USEPA Contract uperfund Methods Data Review vities</i> (September, 2011), and/or (April 13, 1989). Specific data
REVIEWER	Gloria I Swi	talski	DATE	January 25, 2019

### **Data Qualifiers**

Data Qualifier Definitions were supplied by the Office of Solid Waste and Emergency Response (September 1989) and are included in the Functional Guidelines. Data qualifiers may be combined (UJ, QJ) with the corresponding combination of meanings. Additional qualifiers may be added to provide additional, more specific information (JL, UB, QJK), modifying the meaning of the primary qualifier. Additional qualifiers utilized by WESTON are H, L, K, B, and Q.

U - The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation or detection limit, which has been adjusted for sample weight/sample volume, extraction volume, percent solids, sample dilution or other analysis specific parameters.

An additional qualifier, "B", may be appended to indicate that while the analyte was detected in the sample, the presence of the analyte may be attributable to blank contamination and the analyte is therefore considered undetected with the sample detection or quantitation limit for the analyte being elevated.

J - The analyte was analyzed for, but the associated numerical value may not be consistent with the amount actually present in the environmental sample or may not be consistent with the sample detection or quantitation limit. The value is an estimated quantity. The data should be seriously considered for decision-making and are usable for many purposes.

An additional qualifier will be appended to the "J" qualifier that indicates the bias in the reported results:

- L Low bias
- H High bias
- K Unknown bias
- Q The reported concentration is less than the sample quantitation limit for the specific analyte in the sample.

The L and H qualifier will only be employed when a single qualification is required. When more than one quality control parameter affects the analytical result and a conflict results in assigning a bias, the result will be flagged JK.

- R Quality Control indicates that data are unusable for all purposes. The analyte was analyzed for, but the presence or absence of the analyte has not been verified. Resampling and reanalysis are necessary for verification to confirm or deny the presence of an analyte.
- N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

#### PAH FRACTION EVALUATION

# 1. Analytical Method:

Samples were prepared and analyzed using the procedures specified in SW-846 Method 8270D selective ion monitoring (SIM).

# 2. Holding Time:

The samples were received within the recommended  $\leq$ 6°C NFG limit. All samples were extracted within the required holding time of less than 7 days for waters and less than 14 days for solids/wastes after collection. Analysis of the samples was conducted within 40 days of extraction. No qualifications are placed on the data.

# 3. Tuning/Performance:

DFTPP tuning of the mass spectrometer(s) was conducted at the required frequency and results were within the required criteria. No qualifications are placed on the data.

#### 4. Initial Calibration:

All individual relative response factors (RRFs) and average RRFs for the initial calibration (IC) were greater than the compound dependent (see Table 34 of National Functional Guidelines) control limits. All percent relative standard deviations (%RSDs) were less than the compound dependent (see Table 34 of National Functional Guidelines) control limits or the correlation coefficient was > 0.990. No qualifications are placed on the data.

# 5. Continuing Calibration:

All individual RRFs for the initial calibration verification (ICV) and continuing calibration (CC) standards were greater than the compound dependent (see Table 34 of National Functional Guidelines) control limits. All percent differences (%Ds) were less than the compound dependent (see Table 34 of National Functional Guidelines) control limits. No qualifications are placed on the data.

#### 6. Blanks:

# A. Laboratory Blanks:

A method blank was prepared at the required frequency of every time samples were extracted for each matrix and concentration or every 20 samples whichever is greater. Target analytes were not detected in the method at concentrations that warrant blank action. No qualifications are placed on the data.

#### B Field Blanks:

No field blank samples were submitted with this analytical package. No qualifications are placed on the data.

# 7. System Monitoring Compounds (SMC):

All recoveries of the system monitoring compounds (surrogates) were within the control limits provided. No qualifications are placed on the data.

# 8. Duplicates:

# A. Laboratory Duplicate Analysis:

Sample DRA028-20181217-24-56 underwent matrix spike/matrix spike duplicate (MS/MSD) analysis for the solid matrix. QC criteria are that the relative percent difference (RPD) values for the duplicate sample analysis are less than 20% for aqueous samples and less than 35% for solid samples. All QC criteria were met. No qualifications are placed on the data.

# B. Field Duplicate Analysis:

The following sample pair was submitted as field duplicates for the solid matrix: EAS06-20181217-24-56/EAS06-20181217-24-57. QC criteria are that the RPD values for the field duplicate sample analysis be less than 30% for aqueous samples and less than 50% for solid samples for concentrations greater than five times the reporting limit (RL). For sample concentrations less than five times the RL, the QC criteria are that the absolute difference between the samples is less than two times the RL for aqueous samples or less than 3.5 times the RL for the solid matrix. All QC criteria were met with the following exceptions:

FIELD DUPLICATE SAMPLE PAIR	COMPOUND	MATRIX	RPD	AFFECTED SAMPLES	QUALIFIER FLAG
EAS06-20181217-24-56/ EAS06-20181217-24-57	Benzo(b)fluoranthene Fluoranthene	Solid	*	EAS06-20181217-24-56/ EAS06-20181217-24-57	JK JK

<sup>\*</sup>Sample concentrations less than five times the RL and absolute difference between the samples is greater than 3.5 times the RL.

# 9. Matrix Spike/Matrix Spike Duplicate:

Sample DRA028-20181217-24-56 underwent MS/MSD analysis for the solid matrix. Recoveries of all spiked analytes were within the control limits provided in both the matrix spike and matrix spike duplicate with the following exceptions:

ANALYTE	NALYTE MATRIX %R/%R QC LIMITS		AFFECTED SAMPLES	QUALIFIER FLAG	
Benzo(b)fluoranthene	Solid	140/142	50-137%	DRA028-20181217-24-56	JH, benzo(b)fluoranthene

# 10. Internal Standards:

Areas of the six internal standards were within the control limits of a factor of 2 (-50% to +100%) and retention times were within 30 seconds from the associated 12 hour calibration standard. No qualifications are placed on the data.

#### 11. Laboratory Control Sample (LCS):

The laboratory analyzed an LCS and recoveries were within the control limits provided. No qualifications are placed on the data.

# 12. Target Compound Identification:

All target compounds reported by the laboratory met identification criteria of relative retention times (RRT) within 0.06 RRT units of the 12 hour standard and that all ions present in the standard mass spectrum were

present in the sample mass spectrum and the abundance of these ions agreed within  $\pm$  20% of the standard. No qualifications are placed on the data.

# 13. Target Compound Quantitation and Reporting Limits:

Concentrations of all reported compounds were correctly calculated.

Reported concentrations less than the RL qualified "J" by the laboratory are qualified "JQ" to indicate that the result is less than the RL but greater than the method detection limit (MDL).

# 14. Laboratory Contact:

No laboratory contact was required.

#### 15. Overall Assessment

The benzo(b)fluoranthene and fluoranthene results in the field duplicate pair were estimated due to poor precision.

The benzo(b)fluoranthene result in one sample was estimated due to high MS/MSD recoveries.

Reported concentrations less than the RL qualified "J" by the laboratory were qualified "JQ" to indicate that the result is less than the RL but greater than the MDL.

The analytical data is acceptable for use with the qualifications listed above.

# DATA QUALITY ASSURANCE REVIEW

SITE NAME Fran	nk J. Doyle Salva	age Removal Action	1			
WORK ORDER NU	MBER 2060	0.012.001.1175.01	TDD NUMB	ER 000	01/18-175	
PROJECT NUMBER	2		SDG NUMB	ER	HS18120969	
Weston Solutions, Inc 20600.012.001.1175.01; analyzed for metals (As,	SDG No. HS181	20969; Frank J. Do	yle Salvage R	emoval Ac	tion. Three samp	ples were
		SAMPLE NUMI	BERS			
DRA028-20181217-24-56	EA	AS06-20181217-24-5	5	EAS06-20	181217-24-57	
			<del></del> -			
This data package was va USEPA National Function National Functional Gu Laboratory Program Na (April, 2016), Quality As the Regional Protocol for qualifications are listed in	nal Guidelines foidelines for Ino- tional Functional ssurance/Quality or Holding Time	or Organic Superfund rganic Superfund I al Guidelines for H Control Guidance es, Blanks, and VO	nd Methods Do Data Review igh Resolution for Removal A	ata Review (January, n Superfun Activities (S	(January, 2017) 2017), USEPA ad Methods Data September, 2011	, USEPA Contract a Review 1), and/or
REVIEWER Glos	ria J. Switalski		DA	TE J	anuary 25, 2019	

# **Data Qualifiers**

Data Qualifier Definitions were supplied by the Office of Solid Waste and Emergency Response (September 1989) and are included in the Functional Guidelines. Data qualifiers may be combined (UJ, QJ) with the corresponding combination of meanings. Additional qualifiers may be added to provide additional, more specific information (JL, UB, QJK), modifying the meaning of the primary qualifier. Additional qualifiers utilized by WESTON are H, L, K, B, and Q.

U - The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation or detection limit, which has been adjusted for sample weight/sample volume, extraction volume, percent solids, sample dilution or other analysis specific parameters.

An additional qualifier, "B", may be appended to indicate that while the analyte was detected in the sample, the presence of the analyte may be attributable to blank contamination and the analyte is therefore considered undetected with the sample detection or quantitation limit for the analyte being elevated.

J - The analyte was analyzed for, but the associated numerical value may not be consistent with the amount actually present in the environmental sample or may not be consistent with the sample detection or quantitation limit. The value is an estimated quantity. The data should be seriously considered for decision-making and are usable for many purposes.

An additional qualifier will be appended to the "J" qualifier that indicates the bias in the reported results:

- L Low bias
- H High bias
- K Unknown bias
- Q The reported concentration is less than the sample quantitation limit for the specific analyte in the sample.

The L and H qualifier will only be employed when a single qualification is required. When more than one quality control parameter affects the analytical result and a conflict results in assigning a bias, the result will be flagged JK.

- R Quality Control indicates that data are unusable for all purposes. The analyte was analyzed for, but the presence or absence of the analyte has not been verified. Resampling and reanalysis are necessary for verification to confirm or deny the presence of an analyte.
- N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

#### METALS DATA EVALUATION

### 1. Analytical Method:

Samples were prepared and analyzed for ICP metals using the procedures specified in SW-846 Method 6020A.

# 2. Holding Times:

All samples met established holding time criteria of 180 days for ICP metals. No qualifications are placed on the data.

#### 3. Initial Calibration:

ICP initial calibration included a blank and five standards and initial calibration verification results fell within the control limits of 90% to 110% of the true values. No qualifications are placed on the data.

# 4. Continuing Calibration:

All ICP results fell within the control limits of 90% to 110% of the true values. No qualifications are placed on the data.

#### 5. CRDL Standard:

All results for the CRDL standard were within the control limits of 70% to 130% of the true values or the sample results were greater than the CRDL action level. No qualifications are placed on the data.

#### 6. Blanks:

#### A. Laboratory Blanks:

A method blank was prepared at the required frequency of every time samples were prepared/digested for each matrix or every 20 samples whichever is greater. Target analytes were not detected in the method and calibration blanks at concentrations that warrant blank action. No qualifications are placed on the data.

#### B. Field Blanks:

No field blank samples were submitted with this analytical package. No qualifications are placed on the data.

### 7. ICP Interference Check:

All results for the interference check sample were within the control limits of 80% to 120% of the true values. No qualifications are placed on the data.

#### 8. Laboratory Control Sample (LCS):

The recoveries for the LCS were within the control limits provided. No qualifications are placed on the data.

# 9. Duplicate Sample Analysis:

# A. Laboratory Duplicate Analysis:

Sample DRA028-20181217-24-56 underwent matrix spike/matrix spike duplicate (MS/MSD) analysis for ICP metals for the solid matrix. QC criteria are that the relative percent difference (RPD) values for the duplicate sample analysis are less than 20% for aqueous samples and less than 35% for solid samples. All QC criteria were met with the following exception:

ANALYTE	MATRIX	RPD	AFFECTED SAMPLES	QUALIFIER FLAG
Manganese	Solid	55.9	All	JK

### B. Field Duplicate Analysis:

The following sample pair was submitted as field duplicates for the solid matrix: EAS06-20181217-24-56/EAS06-20181217-24-57. QC criteria are that the RPD values for the field duplicate sample analysis be less than 30% for aqueous samples and less than 50% for solid samples for concentrations greater than five times the reporting limit (RL). For sample concentrations less than five times the RL, the QC criteria are that the absolute difference between the samples is less than two times the RL for aqueous samples or less than 3.5 times the RL for the solid matrix. All QC criteria were met with the following exceptions:

FIELD DUPLICATE SAMPLE PAIR	ANALYTE	MATRIX	RPD	AFFECTED SAMPLES	QUALIFIER FLAG
EAS06-20181217-24-56/ EAS06-20181217-24-57	Manganese	Solid	111	EAS06-20181217-24-56/ EAS06-20181217-24-57	JK

# 10. Spiked Sample Analysis:

Sample DRA028-20181217-24-56 underwent MS/MSD analysis for ICP metals for the solid matrix. The spike recoveries for the following analytes were outside of the 75%-125% QC recovery limits for analytes whose sample concentration did not exceed the spike concentration by a factor of 4 times or more:

ANALYTE	MATRIX	%R/%R	AFFECTED SAMPLES	QUALIFIER FLAG	
Lead	Solid	155/OK	All	JН	

The post digestion spike recovery was acceptable indicating a possible digestion problem. No further qualifications are placed on the data.

#### 11. ICP Serial Dilution:

Sample DRA028-20181217-24-56 underwent serial dilution for the solid matrix for ICP metals. The percent difference (%D) values for serial dilution analysis were within the QC limits of 10% for all analytes whose concentrations were greater than 50 times their method detection limit (MDL). No qualifications are placed on the data.

# 12. Sample Quantitation and Reporting Limits:

Concentrations of all reported analytes were correctly calculated.

Reported concentrations less than the RL qualified "J" by the laboratory are qualified "JQ" to indicate that the result is less than the RL but greater than the MDL.

Some ICP metals analytes in some samples were analyzed at a 20 or 100-fold dilution. Reporting limits for these analytes in these samples were elevated as a result of the dilutions performed.

# 13. Laboratory Contact

No laboratory contact was required.

#### 14. Overall Assessment:

The manganese result in all samples was estimated due to high MS/MSD RPD.

The lead result in all samples was estimated due to high MS recovery.

The manganese result in the field duplicate pair was estimated due to poor precision.

Reported concentrations less than the RL qualified "J" by the laboratory were qualified "JQ" to indicate that the result is less than the RL but greater than the MDL.

The analytical data is acceptable for use with the qualifications listed above.

Client:

Weston Solutions, Inc.

FJ Doyle RA/TX

Project: Sample ID:

DRA028-20181217-24-56

Collection Date:

17-Dec-2018 14:00

**ANALYTICAL REPORT** 

WorkOrder:HS18120969 Lab ID:HS18120969-01

Matrix:Soil

Collection Date.	17-Dec-2010 1	4.00		Watrix.Soil				
ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED	
LOW-LEVEL PAHS	Control of the Contro	Method:	SW8270	The second second	Prep SW3541 / 1	8-Dec-2018	Analyst: GEY	
Acenaphthene	0.015		0.00064	0.0042	mg/Kg-dry	1	18-Dec-2018 15:40	
Acenaphthylene	Ŭ	e namena mana namenamana (1999), yaqan	0.0013	0.0042	mg/Kg-dry	' 1	18-Dec-2018 15:40	
Anthracene	0.0082		0.00064	0.0042	mg/Kg-dry	1	18-Dec-2018 15:40	
Benz(a)anthracene	0.0075		0.0021	0.0042	mg/Kg-dry	1	18-Dec-2018 15:40	
Benzo(a)pyrene	0.0062		0.0013	0.0042	mg/Kg-dry	1	18-Dec-2018 15:40	
Benzo(b)fluoranthene	0.0099	<b>3</b> H	0.0015	0.0042	mg/Kg-dry	1	18-Dec-2018 15:40	
Benzo(g,h,i)perylene	0.0042	100	0.00090	0.0042	mg/Kg-dry	1	18-Dec-2018 15:40	
Benzo(k)fluoranthene	0.0043	····	0.0012	0.0042	mg/Kg-dry	1	18-Dec-2018 15:40	
Chrysene	0.0075		0.0010	0.0042	mg/Kg-dry	1	18-Dec-2018 15:40	
Dibenz(a,h)anthracene	0.0024	1 JC	0.0021	0.0042	mg/Kg-dry	1	18-Dec-2018 15:40	
Fluoranthene	0.023		0.0014	0.0042	mg/Kg-dry	1	18-Dec-2018 15:40	
Fluorene	0.0084		0.0014	0.0042	mg/Kg-dry	1 ,	18-Dec-2018 15:40	
Indeno(1,2,3-cd)pyrene	0.0056		0.0010	0.0042	mg/Kg-dry	1	18-Dec-2018 15:40	
Naphthalene	0.016		0.00077	0.0042	mg/Kg-dry	1	18-Dec-2018 15:40	
Phenanthrene	0.040		0.0019	0.0042	mg/Kg-dry	1	18-Dec-2018 15:40	
Pyrene	0.017		0.00077	0.0042	mg/Kg-dry	1	18-Dec-2018 15:40	
Surr: 2-Fluorobiphenyl	79.9			43-125	%REC	1	18-Dec-2018 15:40	
Surr: 4-Terphenyl-d14	95.0			32-125	%REC	1	18-Dec-2018 15:40	
Surr: Nitrobenzene-d5	78.2			37-125	%REC	1	18-Dec-2018 15:40	
PCBS BY SW8082A		Method:	SW8082		Prep:SW3541/36	65A / 18-Dec	-2018 Analyst: JBA	
Arodor 1016	U		0.0054	0.021	mg/Kg-dry	1	18-Dec-2018 16:26	
Aroclor 1221	U		0.0072	. 0,021	mg/Kg-dry	1	18-Dec-2018 16:26	
Arodor 1232	U		0.0058	0.021	mg/Kg-dry	1	18-Dec-2018 16:26	
Aroclor 1242	U		0.0076	0.021	mg/Kg-dry	1	18-Dec-2018 16:26	
Aroclor 1248	U		0.0076	0.021	mg/Kg-dry	1	18-Dec-2018 16:26	
Aroclor 1254	U		0.0060	0.021	mg/Kg-dry	1	18-Dec-2018 16:26	
Aroclor 1260	0.039		0.0051	0.021	mg/Kg-dry	1	18-Dec-2018 16:26	
Surr: Decachlorobiphenyl	135			54-143	%REC	1	18-Dec-2018 16:26	
Surr: Tetrachloro-m-xylene	133			50-140	%REC	1	18-Dec-2018 16:26	
METALS BY SW6020A	1.0	Method:	SW6020		Prep.SW3050A /	18-Dec-2018	Analyst: JCJ	
Arsenic	6.69		0.0828	0.591	mg/Kg-dry	1	19-Dec-2018 14:43	
Cadmium	0.259	+30	0.0319	0.591	mg/Kg-dry	1	19-Dec-2018 14:43	
Cobalt	12.9		0.0177	0.591	mg/Kg-dry	1	19-Dec-2018 14:43	
Iron	29,800	BETTE was some over the second	43.3	1180	mg/Kg-dry	20	19-Dec-2018 16:00	
Lead	25.8	HE	0.0154	0.591	mg/Kg-dry	1	19-Dec-2018 14:43	
Manganese	1,280	JK	1.02	11.8	mg/Kg-dry	20	19-Dec-2018 16:00	
MOISTURE - ASTM D2216	N	lethod:As	STM D2216				Analyst: JHD	
Percent Moisture	22.7		0.0100	. 0.0100	wt%	1	19-Dec-2018 09:17	

Note: See Qualifiers Page for a list of qualifiers and their explanation.



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Client:

Weston Solutions, Inc.

Project:

FJ Doyle RA/TX

Sample ID:

EAS06-20181217-24-56

Collection Date:

17-Dec-2018 14:05

**ANALYTICAL REPORT** 

WorkOrder:HS18120969 Lab ID:HS18120969-02

Matrix:Soil

Collection Date.	17-060-2010				Matrix.30th			
ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED	
LOW-LEVEL PAHS	2.2	Method:S	SW8270		Prep:SW3541 / 1	8-Dec-2018	Analyst: GEN	
Acenaphthene	U	1	0.00063	0.0041	mg/Kg-dry	1	18-Dec-2018 15:59	
Acenaphthylene	Ü		0.0013	0.0041	mg/Kg-dry	1	18-Dec-2018 15:59	
Anthracene	U		0.00063	0.0041	mg/Kg-dry	1	18-Dec-2018 15:59	
Benz(a)anthracene	U	i i deletationi instituti eta	0.0020	0.0041	mg/Kg-dry	1	18-Dec-2018 15:59	
Benzo(a)pyrene	U		0.0013	0.0041	mg/Kg-dry	1	18-Dec-2018 15:59	
Benzo(b)fluoranthene	0.0019	न प्रकृ	<b>-</b> 0.0015	0.0041	mg/Kg-dry	1	18-Dec-2018 15:59	
Benzo(g,h,i)perylene	0.00098	750	0.00088	0.0041	mg/Kg-dry	1	18-Dec-2018 15:59	
Benzo(k)fluoranthene	U	······································	0.0011	0.0041	mg/Kg-dry	1	18-Dec-2018 15:59	
Chrysene	0.0012	# ap	0.0010	0.0041	mg/Kg-dry	1	18-Dec-2018 15:59	
Dibenz(a,h)anthracene	U		0.0020	0.0041	mg/Kg-dry	1	18-Dec-2018 15:59	
Fluoranthene	0.0022	4 387	<u>~ 0.0014</u>	0.0041	mg/Kg-dry	1	18-Dec-2018 15:59	
Fluorene	U		0.0014	0.0041	mg/Kg-dry	1	18-Dec-2018 15:59	
Indeno(1,2,3-cd)pyrene	U		0.0010	0.0041	mg/Kg-dry	1	18-Dec-2018 15:59	
Naphthalene	U		0.00075	0.0041	mg/Kg-dry	1	18-Dec-2018 15:59	
Phenanthrene	0.0026	J 30	0.0019	0.0041	mg/Kg-dry	1	18-Dec-2018 15:59	
Pyrene	0.0018	J 170	0.00075	0.0041	mg/Kg-dry	1	18-Dec-2018 15:59	
Surr: 2-Fluorobiphenyl	81.1			43-125	%REC	1	18-Dec-2018 15:5	
Surr: 4-Terphenyl-d14	98.2		y en nggannololikan ada Alish Sahi, lili lilinda	32-125	%REC	1	18-Dec-2018 15:5	
Surr: Nitrobenzene-d5	76.3			37-125	%REC	1	18-Dec-2018 15:5	
PCBS BY SW8082A		Method:	SW8082		Prep.SW3541/36	65A / 18-Dec	-2018 Analyst: JBA	
Aroclor 1016	U		0.0053	0.021	mg/Kg-dry	1	18-Dec-2018 16:4:	
Aroclor 1221	U		0.0070	0.021	mg/Kg-dry	1	18-Dec-2018 16:4:	
Aroclor 1232	U		0.0057	0.021	mg/Kg-dry	1	18-Dec-2018 16:4:	
Aroclor 1242	U		0.0074	0,021	mg/Kg-dry	1	18-Dec-2018 16:4:	
Aroclor 1248	U		0.0074	0.021	mg/Kg-dry	1	18-Dec-2018 16:42	
Aroclor 1254	U		0.0059	0.021	mg/Kg-dry	1	18-Dec-2018 16:42	
Aroclor 1260	0.0089	4 <u>1</u> 0	0.0050	0.021	mg/Kg-dry	1	18-Dec-2018 16:42	
Surr: Decachlorobiphenyl	129		l	54-143	%REC	1	18-Dec-2018 16:4:	
Surr: Tetrachloro-m-xylene	114			50-140	%REC	1	18-Dec-2018 16:42	
METALS BY SW6020A	55 (0.50) (P#5	Method:S	SW6020	term of the second	Prep.SW3050A /	18-Dec-2018	Analyst: JCJ	
Arsenic	4.84		0.0823	0.588	mg/Kg-dry		19-Dec-2018 14:54	
Cadmium	0.325	PC &	0.0317	0.588	mg/Kg-dry	1	19-Dec-2018 14:54	
Cobalt	7.03	,	0.0176	0.588	mg/Kg-dry	1	19-Dec-2018 14:54	
Iron	15,500	***************************************	2.15	58.8	mg/Kg-dry		19-Dec-2018 14:54	
Lead	13.2	JH	0.0153	0.588	mg/Kg-dry		19-Dec-2018 14:54	
Manganese	434	JK-	1.01	11.8	mg/Kg-dry	eko tokoato. Eskala attotototokoka eko olio	19-Dec-2018 16:07	
MOISTURE - ASTM D2216		Method:AS		Sauge Carrier	110		Analyst: JHC	
Percent Moisture	20.8		0.0100	0.0100	wt%	1	19-Dec-2018 09:17	

Note: See Qualifiers Page for a list of qualifiers and their explanation.



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Client: Project: Weston Solutions, Inc.

FJ Doyle RA/TX

Sample ID:

EAS06-20181217-24-57

Collection Date:

17-Dec-2018 14:05

**ANALYTICAL REPORT** 

WorkOrder:HS18120969 Lab ID:HS18120969-03

Matrix:Soil

						DILUTION	DATE
ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	FACTOR	ANALYZED
LOW-LEVEL PAHS		Method:S	W8270		Prep:SW3541 / 1	8-Dec-2018	Analyst: GE
Acenaphthene	U		0.00062	0.0041	mg/Kg-dry	1	18-Dec-2018 16:1
Acenaphthylene	U		0.0012	0.0041	mg/Kg-dry	1	18-Dec-2018 16:1
Anthracene	0.0014	如	0.00062	0.0041	mg/Kg-dry	1	18-Dec-2018 16:18
Benz(a)anthracene	0.011	***************************************	0.0020	0.0041	mg/Kg-dry	1	18-Dec-2018 16:1
Benzo(a)pyrene	0.0057		0.0012	0.0041	mg/Kg-dry	1	18-Dec-2018 16:18
Benzo(b)fluoranthene	0.017	JK	0.0015	0.0041	mg/Kg-dry	1	18-Dec-2018 16:1
Benzo(g,h,i)perylene	0.0056		0.00087	0.0041	mg/Kg-dry	1	18-Dec-2018 16:18
Benzo(k)fluoranthene	0.0052	~	0.0011	0.0041	mg/Kg-dry	1	18-Dec-2018 16:1
Chrysene	0.013		0.0010	0.0041	mg/Kg-dry	1	18-Dec-2018 16:18
Dibenz(a,h)anthracene	0.0022	\$JQ	0.0020	0.0041	mg/Kg-dry	1	18-Dec-2018 16:1
Fluoranthene	0.019	JK,	0.0014	0.0041	mg/Kg-dry	1	18-Dec-2018 16:18
Fluorene	U	,	0.0014	0.0041	mg/Kg-dry	1	18-Dec-2018 16:18
Indeno(1,2,3-cd)pyrene	0.0066		0.0010	0.0041	mg/Kg-dry	1	18-Dec-2018 16:18
Naphthalene	U		0.00075	0.0041	mg/Kg-dry	1	18-Dec-2018 16:18
Phenanthrene	0.0073		0.0019	0.0041	mg/Kg-dry	1	18-Dec-2018 16:18
Pyrene	0.012	***************************************	0.00075	0.0041	mg/Kg-dry	1	18-Dec-2018 16:18
Surr: 2-Fluorobiphenyl	81.8			43-125	%REC	1	18-Dec-2018 16:1
Surr: 4-Terphenyl-d14	93.0			32-125	%REC	1	18-Dec-2018 16:1
Surr: Nitrobenzene-d5	79.4			37-125	%REC	1	18-Dec-2018 16:1
PCBS BY SW8082A		Method:S	W8082	97.4 1974 - 1974 - 1974	Prep:SW3541/36	65A / 18-Dec	-2018 Analyst: JBA
Aroclor 1016	U		0.0052	0.021	mg/Kg-dry		18-Dec-2018 16:5
Aroclor 1221	U		0.0070	0.021	mg/Kg-dry	1	18-Dec-2018 16:58
Aroclor 1232	U		0.0056	0.021	mg/Kg-dry	1	18-Dec-2018 16:58
Aroclor 1242 `	U	······································	0.0073	0.021	mg/Kg-dry	1	18-Dec-2018 16:58
Aroclor 1248	U		0.0073	0.021	mg/Kg-dry	1	18-Dec-2018 16:58
Aroclor 1254	U		0.0058	0.021	mg/Kg-dry	1	18-Dec-2018 16:58
Aroclor 1260	0.045		0.0050	0.021	mg/Kg-dry	1	18-Dec-2018 16:58
Surr: Decachlorobiphenyl	127			54-143	%REC	1	18-Dec-2018 16:5
Surr: Tetrachloro-m-xylene	110			50-140	%REC	1	18-Dec-2018 16:5
METALS BY SW6020A		Method:S	W6020		Prep:SW3050A /	18-Dec-2018	Analyst: JCJ
Arsenic	4.61		0.0841	0.601	mg/Kg-dry	1	19-Dec-2018 14:56
Cadmium	0.301	4JQ	0.0324	0.601	mg/Kg-dry	1	19-Dec-2018 14:56
Cobalt	7.39		0.0180	0.601	mg/Kg-dry	1	19-Dec-2018 14:56
ron	17,800		2.20	60.1	mg/Kg-dry		19-Dec-2018 14:56
Lead	12.7	HE	0.0156	0.601	mg/Kg-dry	1	19-Dec-2018 14:56
Manganese	1,510	4万	5.17	60.1	mg/Kg-dry		19-Dec-2018 16:09
MOISTURE - ASTM D2216	N	lethod:AS	TM D2216		•	7 (2 5)	Analyst: JHD
Percent Moisture	20.2		0.0100	0.0100	wt%	1	19-Dec-2018 09:17

Note: See Qualifiers Page for a list of qualifiers and their explanation.



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# DATA QUALITY ASSURANCE REVIEW

	le Salvage Removal Actio		
WORK ORDER NUMBER	20600.012.001.1175.01	TDD NUMBER	0001/18-175
PROJECT NUMBER		SDG NUMBER	HS18121115
Weston Solutions, Inc. (WES 20600.012.001.1175.01; SDG No. analyzed for Polychlorinated Bipl (SPLP) PCBs by ALS Environment	HS18121115; Frank J. Inenyl Compounds (PCBs	Doyle Salvage Real and Synthetic Property	
	SAMPLE NUM	BERS	
FJD03-06-20181219-24-56			
This data package was validated to USEPA National Functional Guidelines of Laboratory Program National Further (April, 2016), Quality Assurance/of the Regional Protocol for Holding qualifications are listed in the follows:	elines for Organic Superfu for Inorganic Superfund inctional Guidelines for I Quality Control Guidance g Times, Blanks, and V	nd Methods Data Data Review (Jar High Resolution Si for Removal Activ	Review (January, 2017), USEPA nuary, 2017), USEPA Contract uperfund Methods Data Review vities (September, 2011), and/c
REVIEWER Gloria I Swi	talski	DATE	February 1 2019

# **Data Qualifiers**

Data Qualifier Definitions were supplied by the Office of Solid Waste and Emergency Response (September 1989) and are included in the Functional Guidelines. Data qualifiers may be combined (UJ, QJ) with the corresponding combination of meanings. Additional qualifiers may be added to provide additional, more specific information (JL, UB, QJK), modifying the meaning of the primary qualifier. Additional qualifiers utilized by WESTON are H, L, K, B, and Q.

U - The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation or detection limit, which has been adjusted for sample weight/sample volume, extraction volume, percent solids, sample dilution or other analysis specific parameters.

An additional qualifier, "B", may be appended to indicate that while the analyte was detected in the sample, the presence of the analyte may be attributable to blank contamination and the analyte is therefore considered undetected with the sample detection or quantitation limit for the analyte being elevated.

J - The analyte was analyzed for, but the associated numerical value may not be consistent with the amount actually present in the environmental sample or may not be consistent with the sample detection or quantitation limit. The value is an estimated quantity. The data should be seriously considered for decision-making and are usable for many purposes.

An additional qualifier will be appended to the "J" qualifier that indicates the bias in the reported results:

- L Low bias
- H High bias
- K Unknown bias
- Q The reported concentration is less than the sample quantitation limit for the specific analyte in the sample.

The L and H qualifier will only be employed when a single qualification is required. When more than one quality control parameter affects the analytical result and a conflict results in assigning a bias, the result will be flagged JK.

- R Quality Control indicates that data are unusable for all purposes. The analyte was analyzed for, but the presence or absence of the analyte has not been verified. Resampling and reanalysis are necessary for verification to confirm or deny the presence of an analyte.
- N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

#### PCB FRACTION EVALUATION

# 1. Analytical Method:

Samples were prepared and analyzed for PCBs using the procedures specified in **SW-846 Method 8082A**. Samples were extracted for SPLP PCBs using the procedure specified in **SW-846 Method 1312**.

## 2. Holding Time:

The samples were received within the recommended ≤6°C NFG limit. All samples were extracted within the required holding time of less than 1 year after collection. Analysis of the samples was conducted within 40 days of extraction. All SPLP samples were extracted within the required holding time of less than 14 days for PCBs. No qualifications are placed on the data.

#### 3. Initial Calibration:

The correlation coefficient of the multipoint initial calibration was greater than or equal to 0.995 or the percent relative standard deviation (%RSD) was less than or equal to 20%. No qualifications are placed on the data.

# 4. Continuing Calibration:

The continuing calibration check was analyzed at the required frequency and met recovery requirements of 75%-125% [percent difference (%D) was less than 25%]. No qualifications are placed on the data.

#### 5. Blanks:

#### A. Laboratory Blanks:

A method blank was prepared at the required frequency of every time samples were extracted for each matrix and concentration or every 20 samples whichever is greater. No target analytes were detected in the method blanks at concentrations that warrant blank action. No qualifications are placed on the data.

#### B. Field Blanks:

No field blank samples were submitted with this analytical package. No qualifications are placed on the data.

#### 6. Surrogates:

All recoveries of the surrogates were within the control limits provided. No qualifications are placed on the data.

# 7. Matrix Spikes/Matrix Spike Duplicates (MS/MSD):

Sample FJD03-06-20181219-24-56 underwent MS analysis for the SPLP matrix. Recoveries of all spiked analytes were within the control limits provided. No qualifications are placed on the data.

# 8. Duplicates:

# A. Laboratory Duplicate Analysis:

No sample from this analytical package underwent MS/MSD analysis. No qualifications are placed on the data.

# B. Field Duplicate Analysis:

No field duplicate samples were submitted with this analytical package. No qualifications are placed on the data.

# 9. Laboratory Control Sample (LCS)/Laboratory Control Sample Duplicate (LCSD):

The laboratory analyzed an LCS and/or LCSD and recoveries and relative percent difference (RPD) values were within the control limits provided. No qualifications are placed on the data.

# 10. Target Compound Identification, Quantitation, and Reporting Limits:

Concentrations of all reported compounds were correctly calculated.

The %D between the column results were within the acceptance limits (≤25). No qualifications are placed on the data.

# 11. Laboratory Contact:

The laboratory was contacted on January 25, 2019 regarding discrepancies between the sample weights and volumes used on the run log and quantitation reports. An acceptable response was received on January 31, 2019. In addition, the laboratory provided the missing TCLP PCB raw data.

#### 12. Overall Assessment:

The analytical data is acceptable for use without qualification.

# DATA QUALITY ASSURANCE REVIEW

SHE NAME Frank J. Doy	le Salvage Removal Action	on	
WORK ORDER NUMBER	20600.012.001.1175.01	_ TDD NUMBER	0001/18-175
PROJECT NUMBER		SDG NUMBER	HS18121115
Weston Solutions, Inc. (WES 20600.012.001.1175.01; SDG No. analyzed for Polynuclear Aromatic below.	HS18121115; Frank J.	Doyle Salvage Ren	noval Action. One sample wa
	SAMPLE NUM	IBERS	
FJD03-06-20181219-24-56			
	-		
This data package was validated to USEPA National Functional Guidelines of Laboratory Program National Fu (April, 2016), Quality Assurance/ethe Regional Protocol for Holding qualifications are listed in the follows:	elines for Organic Superfi for Inorganic Superfund Inctional Guidelines for I Quality Control Guidance Ig Times, Blanks, and V	und Methods Data R Data Review (Jan High Resolution Su e for Removal Activ	Review (January, 2017), USEPA uary, 2017), USEPA Contract perfund Methods Data Review ities (September, 2011), and/or
REVIEWER Gloria J. Swi	talski	DATE	January 25, 2019

# **Data Qualifiers**

Data Qualifier Definitions were supplied by the Office of Solid Waste and Emergency Response (September 1989) and are included in the Functional Guidelines. Data qualifiers may be combined (UJ, QJ) with the corresponding combination of meanings. Additional qualifiers may be added to provide additional, more specific information (JL, UB, QJK), modifying the meaning of the primary qualifier. Additional qualifiers utilized by WESTON are H, L, K, B, and Q.

U - The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation or detection limit, which has been adjusted for sample weight/sample volume, extraction volume, percent solids, sample dilution or other analysis specific parameters.

An additional qualifier, "B", may be appended to indicate that while the analyte was detected in the sample, the presence of the analyte may be attributable to blank contamination and the analyte is therefore considered undetected with the sample detection or quantitation limit for the analyte being elevated.

J - The analyte was analyzed for, but the associated numerical value may not be consistent with the amount actually present in the environmental sample or may not be consistent with the sample detection or quantitation limit. The value is an estimated quantity. The data should be seriously considered for decision-making and are usable for many purposes.

An additional qualifier will be appended to the "J" qualifier that indicates the bias in the reported results:

- L Low bias
- H High bias
- K Unknown bias
- Q The reported concentration is less than the sample quantitation limit for the specific analyte in the sample.

The L and H qualifier will only be employed when a single qualification is required. When more than one quality control parameter affects the analytical result and a conflict results in assigning a bias, the result will be flagged JK.

- R Quality Control indicates that data are unusable for all purposes. The analyte was analyzed for, but the presence or absence of the analyte has not been verified. Resampling and reanalysis are necessary for verification to confirm or deny the presence of an analyte.
- N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

#### PAH FRACTION EVALUATION

# 1. Analytical Method:

Samples were prepared and analyzed using the procedures specified in SW-846 Method 8270D selective ion monitoring (SIM).

# 2. Holding Time:

The samples were received within the recommended  $\leq$ 6°C NFG limit. All samples were extracted within the required holding time of less than 7 days for waters and less than 14 days for solids/wastes after collection. Analysis of the samples was conducted within 40 days of extraction. No qualifications are placed on the data.

# 3. Tuning/Performance:

DFTPP tuning of the mass spectrometer(s) was conducted at the required frequency and results were within the required criteria. No qualifications are placed on the data.

#### 4. Initial Calibration:

All individual relative response factors (RRFs) and average RRFs for the initial calibration (IC) were greater than the compound dependent (see Table 34 of National Functional Guidelines) control limits. All percent relative standard deviations (%RSDs) were less than the compound dependent (see Table 34 of National Functional Guidelines) control limits or the correlation coefficient was > 0.990. No qualifications are placed on the data.

# 5. Continuing Calibration:

All individual RRFs for the initial calibration verification (ICV) and continuing calibration (CC) standards were greater than the compound dependent (see Table 34 of National Functional Guidelines) control limits. All percent differences (%Ds) were less than the compound dependent (see Table 34 of National Functional Guidelines) control limits. No qualifications are placed on the data.

#### 6. Blanks:

# A. Laboratory Blanks:

A method blank was prepared at the required frequency of every time samples were extracted for each matrix and concentration or every 20 samples whichever is greater. Target analytes were not detected in the method at concentrations that warrant blank action. No qualifications are placed on the data.

#### B. Field Blanks:

No field blank samples were submitted with this analytical package. No qualifications are placed on the data.

# 7. System Monitoring Compounds (SMC):

All recoveries of the system monitoring compounds (surrogates) were within the control limits provided. No qualifications are placed on the data.

# 8. Duplicates:

# A. Laboratory Duplicate Analysis:

No sample from this analytical package underwent matrix spike/matrix spike duplicate (MS/MSD) analysis. No qualifications are placed on the data.

## B. Field Duplicate Analysis:

No field duplicate samples were submitted with this analytical package. No qualifications are placed on the data.

# 9. Matrix Spike/Matrix Spike Duplicate:

No sample from this analytical package underwent MS/MSD analysis. No qualifications are placed on the data.

#### 10. Internal Standards:

Areas of the six internal standards were within the control limits of a factor of 2 (-50% to +100%) and retention times were within 30 seconds from the associated 12 hour calibration standard. No qualifications are placed on the data.

# 11. Laboratory Control Sample (LCS):

The laboratory analyzed an LCS and recoveries were within the control limits provided. No qualifications are placed on the data.

# 12. Target Compound Identification:

All target compounds reported by the laboratory met identification criteria of relative retention times (RRT) within 0.06 RRT units of the 12 hour standard and that all ions present in the standard mass spectrum were present in the sample mass spectrum and the abundance of these ions agreed within  $\pm$  20% of the standard. No qualifications are placed on the data.

#### 13. Target Compound Quantitation and Reporting Limits:

Concentrations of all reported compounds were correctly calculated.

Reported concentrations less than the reporting limit (RL) qualified "J" by the laboratory are qualified "JQ" to indicate that the result is less than the RL but greater than the method detection limit (MDL).

# 14. Laboratory Contact:

No laboratory contact was required.

#### 15. Overall Assessment

Reported concentrations less than the RL qualified "J" by the laboratory were qualified "JQ" to indicate that the result is less than the RL but greater than the MDL.

The analytical data is acceptable for use with the qualifications listed above.

# DATA QUALITY ASSURANCE REVIEW

SITE NAME	Frank J. Doy	le Salvage Removal Actio	on			
WORK ORDER	R NUMBER	20600.012.001.1175.01	TDD NUMBER	0001/18-175 HS18121115		
PROJECT NUM	MBER		SDG NUMBER			
20600.012.001.1175 analyzed for metals	5.01; SDG No. (As, Cd, Co, F	HS18121115; Frank J. 1	Doyle Salvage Remic Precipitation Lead	for Work Order Number noval Action. One sample was ching Procedure (SPLP) metals		
		SAMPLE NUM	BERS			
FJD03-06-20181219	9-24-56					
				-		
		· -				
			1 (00)			
USEPA National Functional National Functional Laboratory Program (April, 2016), Qual	inctional Guide al Guidelines f m National Fu ity Assurance/Ç col for Holdin	elines for Organic Superfi for Inorganic Superfund nctional Guidelines for I Quality Control Guidance g Times, Blanks, and V	und Methods Data R Data Review (Janu High Resolution Sup of for Removal Activi	tions were achieved, following deview (January, 2017), USEPA pary, 2017), USEPA Contract perfund Methods Data Review ties (September, 2011), and/or April 13, 1989). Specific data		
REVIEWER	Gloria J. Swit	alski	DATE	January 28, 2019		

### **Data Qualifiers**

Data Qualifier Definitions were supplied by the Office of Solid Waste and Emergency Response (September 1989) and are included in the Functional Guidelines. Data qualifiers may be combined (UJ, QJ) with the corresponding combination of meanings. Additional qualifiers may be added to provide additional, more specific information (JL, UB, QJK), modifying the meaning of the primary qualifier. Additional qualifiers utilized by WESTON are H, L, K, B, and Q.

U - The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation or detection limit, which has been adjusted for sample weight/sample volume, extraction volume, percent solids, sample dilution or other analysis specific parameters.

An additional qualifier, "B", may be appended to indicate that while the analyte was detected in the sample, the presence of the analyte may be attributable to blank contamination and the analyte is therefore considered undetected with the sample detection or quantitation limit for the analyte being elevated.

J - The analyte was analyzed for, but the associated numerical value may not be consistent with the amount actually present in the environmental sample or may not be consistent with the sample detection or quantitation limit. The value is an estimated quantity. The data should be seriously considered for decision-making and are usable for many purposes.

An additional qualifier will be appended to the "J" qualifier that indicates the bias in the reported results:

- L Low bias
- H High bias
- K Unknown bias
- Q The reported concentration is less than the sample quantitation limit for the specific analyte in the sample.

The L and H qualifier will only be employed when a single qualification is required. When more than one quality control parameter affects the analytical result and a conflict results in assigning a bias, the result will be flagged JK.

- R Quality Control indicates that data are unusable for all purposes. The analyte was analyzed for, but the presence or absence of the analyte has not been verified. Resampling and reanalysis are necessary for verification to confirm or deny the presence of an analyte.
- N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

#### METALS DATA EVALUATION

#### 1. Analytical Method:

Samples were prepared and analyzed for ICP metals using the procedures specified in **SW-846 Method 6020A.** Samples were extracted for SPLP metals using the procedure specified in **SW-846 Method 1312.** 

# 2. Holding Times:

All samples met established holding time criteria of 180 days for ICP metals. No qualifications are placed on the data. All SPLP samples were extracted within the required holding time of less than 180 days for metals. No qualifications are placed on the data.

#### 3. Initial Calibration:

ICP initial calibration included a blank and five standards and initial calibration verification results fell within the control limits of 90% to 110% of the true values. No qualifications are placed on the data.

#### 4. Continuing Calibration:

All ICP results fell within the control limits of 90% to 110% of the true values. No qualifications are placed on the data.

#### 5. CRDL Standard:

All results for the CRDL standard were within the control limits of 70% to 130% of the true values or the sample results were greater than the CRDL action level. No qualifications are placed on the data.

#### 6. Blanks:

# A. Laboratory Blanks:

A method blank was prepared at the required frequency of every time samples were prepared/digested for each matrix or every 20 samples whichever is greater. Target analytes were not detected in the method and calibration blanks at concentrations that warrant blank action. No qualifications are placed on the data.

#### B. Field Blanks:

No field blank samples were submitted with this analytical package. No qualifications are placed on the data.

#### 7. ICP Interference Check:

All results for the interference check sample were within the control limits of 80% to 120% of the true values. No qualifications are placed on the data.

# 8. Laboratory Control Sample (LCS):

The recoveries for the LCS were within the control limits provided. No qualifications are placed on the data.

# 9. Duplicate Sample Analysis:

# A. Laboratory Duplicate Analysis:

Sample FJD03-06-20181219-24-56 underwent matrix spike/matrix spike duplicate (MS/MSD) analysis for Mn for the SPLP matrix. QC criteria are that the relative percent difference (RPD) values for the duplicate sample analysis are less than 20% for aqueous samples and less than 35% for solid samples. All QC criteria were met. No qualifications are placed on the data.

# B. Field Duplicate Analysis:

No field duplicate samples were submitted with this analytical package. No qualifications are placed on the data.

#### 10. Spiked Sample Analysis:

Sample FJD03-06-20181219-24-56 underwent MS/MSD analysis for Mn for the SPLP matrix. The spike recoveries for the all analytes were within the 75%-125% QC recovery limits for analytes whose sample concentration did not exceed the spike concentration by a factor of 4 times or more. The post digestion spike recoveries were acceptable. No qualifications are placed on the data.

# 11. ICP Serial Dilution:

Sample FJD03-06-20181219-24-56 underwent serial dilution for Mn for the SPLP matrix. The percent difference (%D) values for serial dilution analysis were within the QC limits of 10% for all analytes whose concentrations were greater than 50 times their method detection limit (MDL). No qualifications are placed on the data.

# 12. Sample Quantitation and Reporting Limits:

Concentrations of all reported analytes were correctly calculated.

Reported concentrations less than the reporting limit (RL) qualified "J" by the laboratory are qualified "JQ" to indicate that the result is less than the RL but greater than the MDL.

#### 13. Laboratory Contact

No laboratory contact was required.

#### 14. Overall Assessment:

Reported concentrations less than the RL qualified "J" by the laboratory were qualified "JQ" to indicate that the result is less than the RL but greater than the MDL.

The analytical data is acceptable for use with the qualifications listed above.

Client: Project: Weston Solutions, Inc.

FJ Doyle RA/TX

Sample ID:

FJD03-06-20181219-24-56

Collection Date:

19-Dec-2018 08:38

**ANALYTICAL REPORT** 

WorkOrder:HS18121115 Lab ID:HS18121115-01

Matrix:Soil

Concount Bate.	10 000 2010 (	0.00			IVIG	u 17.0011	
ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL PAHS	n system	Method	:SW8270		Prep:SW3541 / 2	0-Dec-2018	Analyst: GEY
Acenaphthene	υ		0.00065	0.0043	mg/Kg-dry	1	22-Dec-2018 03:18
Acenaphthylene	U	•	0.0013	0.0043	mg/Kg-dry	1	22-Dec-2018 03:18
Anthracene	U		0.00065	0.0043	mg/Kg-dry	1	22-Dec-2018 03:18
Benz(a)anthracene	U		0.0021	0.0043	mg/Kg-dry	1	22-Dec-2018 03:18
Benzo(a)pyrene	υ		0.0013	0.0043	mg/Kg-dry	1	22-Dec-2018 03:18
Benzo(b)fluoranthene	υ		0.0016	0.0043	mg/Kg-dry	1	22-Dec-2018 03:18
Benzo(g,h,i)perylene	U		0.00091	0.0043	mg/Kg-dry	1	22-Dec-2018 03:18
Benzo(k)fluoranthene	υ	***************************************	0.0012	0.0043	mg/Kg-dry	1	22-Dec-2018 03:18
Chrysene	U		0.0010	0.0043	mg/Kg-dry	1	22-Dec-2018 03:18
Dibenz(a,h)anthracene	U	, chilaga anno 11. Alaquaquali Albaqua, anno	0.0021	0.0043	mg/Kg-dry	1	22-Dec-2018 03:18
Fluoranthene	U		0.0014	0.0043	mg/Kg-dry	1	22-Dec-2018 03:18
Fluorene	U	1, - 1, - 1, - 1, - 1, - 1, - 1, - 1	0.0014	0.0043	mg/Kg-dry	1	22-Dec-2018 03:18
Indeno(1,2,3-cd)pyrene	υ		0.0010	0.0043	mg/Kg-dry	1	22-Dec-2018 03:18
Naphthalene	0.0020	+J.	Q 0.00078	0.0043	mg/Kg-dry	1	22-Dec-2018 03:18
Phenanthrene	U	-	0.0020	0.0043	mg/Kg-dry	1	22-Dec-2018 03:18
Pyrene	U		0.00078	0.0043	mg/Kg-dry	1	22-Dec-2018 03:18
Surr: 2-Fluorobiphenyl	58.0			43-125	%REC	1	22-Dec-2018 03:18
Surr: 4-Terphenyl-d14	63.9	and the second s	, t	32-125	%REC	1	22-Dec-2018 03:18
Surr: Nitrobenzene-d5	55.4			37-125	%REC	1	22-Dec-2018 03:18
SPLP PCBS BY SW8082A	N	Method:S1	N1312/8082	Leache: SW1312 / 27-Dec-2018	Prep:SW3510C/3	665A / 27-De	oc- Analyst: JBA
Arodor 1016	U		0,10	0.52	2018 ug/L	1	28-Dec-2018 07:54
Aroclor 1221	U	***************************************	0.10	0.52	ug/L	1	28-Dec-2018 07:54
Aroclor 1232	U		0.10	0.52	ug/L	1	28-Dec-2018 07:54
Aroclor 1242	U		0.10	0.52	ug/L	1	28-Dec-2018 07:54
Aroclor 1248	U		0.10	0.52	ug/L	1	28-Dec-2018 07:54
Aroclor 1254	U		0.10	0.52	ug/L	1	28-Dec-2018 07:54
Aroclor 1260	U		0.10	0.52	ug/L	1	28-Dec-2018 07:54
Surr: Decachlorobiphenyl	100	Maria da Arrestadores e e a destadada de la composição de		30-150	%REC	1	28-Dec-2018 07:54
Surr: Tetrachloro-m-xylene	104			30-150	%REC	1	28-Dec-2018 07:54
PCBS BY SW8082A		Method	:SW8082			554 / 20 Dec	-2018 Analyst: JBA
Aroclor 1016	U	cuiou	0.0055	0.022	mg/Kg-dry		21-Dec-2018 02:59
Aroclor 1221	U		0.0073	0.022		1	21-Dec-2018 02:59
Aroclor 1232	U		0.0059	0.022		1	21-Dec-2018 02:59
Aroclor 1242	U		0.0033	0.022		1	21-Dec-2018 02:59
Aroclor 1248	υ		0.0077	0.022	mg/Kg-dry	1	21-Dec-2018 02:59
Aroclor 1254	U		0.0061	0.022		1 .	21-Dec-2018 02:59
Aroclor 1260	0.072		0.0052	0.022	mg/Kg-dry		21-Dec-2018 02:59
Surr: Decachlorobiphenyl	115		0.0002	54-143	%REC	1	
Surr: Tetrachloro-m-xylene	112			50-140			21-Dec-2018 02:59
Carr. Totalomoro-m-xyrene	112			30-140	%REC	1	21-Dec-2018 02:59

Note: See Qualifiers Page for a list of qualifiers and their explanation.



8/105/19

Weston Solutions, Inc.

Project:

FJ Doyle RA/TX

Sample ID: Collection Date: FJD03-06-20181219-24-56

19-Dec-2018 08:38

**ANALYTICAL REPORT** 

WorkOrder:HS18121115 Lab ID:HS18121115-01

Matrix:Soil

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED	)
SPLP METALS BY SW6020A		Method:S	W6020	Leache:SW1312 / 27-Dec-2018	Prep:SW3010A /	27-Dec-2018	Analyst:	ALR
Manganese	0.00837	O	.000700	0.00500	mg/L	1	02-Jan-2019 1	18:56
METALS BY SW6020A		Method:S	W6020		Prep:SW3050A	20-Dec-2018	Analyst:	ALR
Arsenic	4.49	10010	0.0880	0.629	mg/Kg-dry	1	20-Dec-2018	22:42
Cadmium	0.348	+ JQ	0.0340	0.629	mg/Kg-dry	1	20-Dec-2018	22:42
Cobalt	7.52		0.0189	0.629	mg/Kg-dry	1	20-Dec-2018	22:42
Iron	14,900		2.30	62.9	mg/Kg-dry	1	20-Dec-2018	22:42
Lead	10.0		0.0163	0.629	mg/Kg-dry	1	20-Dec-2018	22:42
Manganese	985		2.70	31.4	mg/Kg-dry	50	21-Dec-2018	13:47
MOISTURE - ASTM D2216		Method:AST	M D2216				Analyst:	JHD
Percent Moisture	24.2		0.0100	0.0100	wt%	1	20-Dec-2018	14:43





# DATA QUALITY ASSURANCE REVIEW

SITE NAME Frank J. Doy	le Salvage Removal Action	n	
WORK ORDER NUMBER	20600.012.001.1175.01	TDD NUMBER	0001/18-175
PROJECT NUMBER		SDG NUMBER	HS19010219
Weston Solutions, Inc. (WES 20600.012.001.1175.01; SDG No. analyzed for Polychlorinated Bipl (SPLP) PCBs by ALS Environment	HS19010219; Frank J. D nenyl Compounds (PCBs	oyle Salvage Remo and Synthetic Pre	val Action. Four samples wer
	SAMPLE NUM	BERS	
DRA26-20190107-12-56	EAS07-20190107-36-5	56 EAS	508-20190107-36-56
FJD04-07-20190107-36-56			
	_		
This data package was validated to USEPA National Functional Guide National Functional Guidelines f	elines for Organic Superfi	nd Methods Data R	Peview (January, 2017), USEPA
Laboratory Program National Fu (April, 2016), Quality Assurance/9 the Regional Protocol for Holdin qualifications are listed in the follo	nctional Guidelines for I Quality Control Guidance g Times, Blanks, and V	High Resolution Sup for Removal Activi	perfund Methods Data Reviewities (September, 2011), and/o
REVIEWER Gloria J. Swit	talski	DATE	February 4, 2019

## **Data Qualifiers**

Data Qualifier Definitions were supplied by the Office of Solid Waste and Emergency Response (September 1989) and are included in the Functional Guidelines. Data qualifiers may be combined (UJ, QJ) with the corresponding combination of meanings. Additional qualifiers may be added to provide additional, more specific information (JL, UB, QJK), modifying the meaning of the primary qualifier. Additional qualifiers utilized by WESTON are H, L, K, B, and Q.

U - The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation or detection limit, which has been adjusted for sample weight/sample volume, extraction volume, percent solids, sample dilution or other analysis specific parameters.

An additional qualifier, "B", may be appended to indicate that while the analyte was detected in the sample, the presence of the analyte may be attributable to blank contamination and the analyte is therefore considered undetected with the sample detection or quantitation limit for the analyte being elevated.

J - The analyte was analyzed for, but the associated numerical value may not be consistent with the amount actually present in the environmental sample or may not be consistent with the sample detection or quantitation limit. The value is an estimated quantity. The data should be seriously considered for decision-making and are usable for many purposes.

An additional qualifier will be appended to the "J" qualifier that indicates the bias in the reported results:

- L Low bias
- H High bias
- K Unknown bias
- Q The reported concentration is less than the sample quantitation limit for the specific analyte in the sample.

The L and H qualifier will only be employed when a single qualification is required. When more than one quality control parameter affects the analytical result and a conflict results in assigning a bias, the result will be flagged JK.

- R Quality Control indicates that data are unusable for all purposes. The analyte was analyzed for, but the presence or absence of the analyte has not been verified. Resampling and reanalysis are necessary for verification to confirm or deny the presence of an analyte.
- N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

#### PCB FRACTION EVALUATION

# 1. Analytical Method:

Samples were prepared and analyzed for PCBs using the procedures specified in **SW-846 Method 8082A**. Samples were extracted for SPLP PCBs using the procedure specified in **SW-846 Method 1312**.

## 2. Holding Time:

The samples were received within the recommended ≤6°C NFG limit. All samples were extracted within the required holding time of less than 1 year after collection. Analysis of the samples was conducted within 40 days of extraction. All SPLP samples were extracted within the required holding time of less than 14 days for PCBs. No qualifications are placed on the data.

#### 3. Initial Calibration:

The correlation coefficient of the multipoint initial calibration was greater than or equal to 0.995 or the percent relative standard deviation (%RSD) was less than or equal to 20%. No qualifications are placed on the data.

## 4. Continuing Calibration:

The continuing calibration check was analyzed at the required frequency and met recovery requirements of 75%-125% [percent difference (%D) was less than 25%]. No qualifications are placed on the data.

#### 5. Blanks:

#### A. Laboratory Blanks:

A method blank was prepared at the required frequency of every time samples were extracted for each matrix and concentration or every 20 samples whichever is greater. No target analytes were detected in the method blanks at concentrations that warrant blank action. No qualifications are placed on the data.

#### B. Field Blanks:

No field blank samples were submitted with this analytical package. No qualifications are placed on the data.

#### 6. Surrogates:

All recoveries of the surrogates were within the control limits provided or were diluted out. No qualifications are placed on the data.

## 7. Matrix Spikes/Matrix Spike Duplicates (MS/MSD):

Sample DRA26-20190107-12-56 underwent matrix spike/matrix spike duplicate (MS/MSD) analysis for the solid matrix. Sample EAS07-20190107-36-56 underwent MS analysis for the SPLP matrix. Recoveries of all spiked analytes were within the control limits provided. No qualifications are placed on the data.

## 8. Duplicates:

# A. Laboratory Duplicate Analysis:

Sample DRA26-20190107-12-56 underwent MS/MSD analysis for the solid matrix. QC criteria are that the relative percent difference (RPD) values for the duplicate sample analysis are less than 20% for aqueous samples and less than 35% for solid samples. All criteria were met. No qualifications are placed on the data.

## B. Field Duplicate Analysis:

No field duplicate samples were submitted with this analytical package. No qualifications are placed on the data.

## 9. Laboratory Control Sample (LCS)/Laboratory Control Sample Duplicate (LCSD):

The laboratory analyzed an LCS and/or LCSD and recoveries and relative percent difference (RPD) values were within the control limits provided. No qualifications are placed on the data.

## 10. Target Compound Identification, Quantitation, and Reporting Limits:

Concentrations of all reported compounds were correctly calculated.

The %D between the column results were within the acceptance limits (≤25). No qualifications are placed on the data.

Reported concentrations less than the reporting limit (RL) qualified "J" by the laboratory are qualified "JQ" to indicate that the result is less than the RL but greater than the method detection limit (MDL).

Some PCB samples were analyzed at a dilution for some compounds. Reporting limits for these compounds in these samples were elevated as a result of the dilutions performed.

## 11. Laboratory Contact:

No laboratory contact was required.

#### 12. Overall Assessment:

Reported concentrations less than the RL qualified "J" by the laboratory were qualified "JQ" to indicate that the result is less than the RL but greater than the MDL.

The analytical data is acceptable for use with the qualifications listed above.

# DATA QUALITY ASSURANCE REVIEW

SITE NAME	Frank J. Doy	le Salvage Removal Actio	n	
WORK ORDEI	R NUMBER	20600.012.001.1175.01	TDD NUMBER	0001/18-175
PROJECT NUM	MBER		SDG NUMBER	HS19010219
	5.01; SDG No.	HS19010219; Frank J. D	oyle Salvage Remo	for Work Order Number val Action. Four samples were tal. Sample numbers are listed
		SAMPLE NUM	BERS	
DRA26-20190107-1		EAS07-20190107-36-5	6 EAS	508-20190107-36-56
USEPA National Functional National Functional Laboratory Program (April, 2016), Qual	unctional Guide al Guidelines j m National Fu lity Assurance/ col for Holdin	elines for Organic Superfu for Inorganic Superfund inctional Guidelines for H Quality Control Guidance g Times, Blanks, and Vo	nd Methods Data R Data Review (Janu ligh Resolution Sup for Removal Activi	tions were achieved, following eview (January, 2017), USEPA contract perfund Methods Data Review (Sties (September, 2011), and/o April 13, 1989). Specific data
DEVIEWED	Gloria I Swi	taleki	DATE	February 8, 2010

### **Data Qualifiers**

Data Qualifier Definitions were supplied by the Office of Solid Waste and Emergency Response (September 1989) and are included in the Functional Guidelines. Data qualifiers may be combined (UJ, QJ) with the corresponding combination of meanings. Additional qualifiers may be added to provide additional, more specific information (JL, UB, QJK), modifying the meaning of the primary qualifier. Additional qualifiers utilized by WESTON are H, L, K, B, and Q.

U - The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation or detection limit, which has been adjusted for sample weight/sample volume, extraction volume, percent solids, sample dilution or other analysis specific parameters.

An additional qualifier, "B", may be appended to indicate that while the analyte was detected in the sample, the presence of the analyte may be attributable to blank contamination and the analyte is therefore considered undetected with the sample detection or quantitation limit for the analyte being elevated.

J - The analyte was analyzed for, but the associated numerical value may not be consistent with the amount actually present in the environmental sample or may not be consistent with the sample detection or quantitation limit. The value is an estimated quantity. The data should be seriously considered for decision-making and are usable for many purposes.

An additional qualifier will be appended to the "J" qualifier that indicates the bias in the reported results:

- L Low bias
- H High bias
- K Unknown bias
- Q The reported concentration is less than the sample quantitation limit for the specific analyte in the sample.

The L and H qualifier will only be employed when a single qualification is required. When more than one quality control parameter affects the analytical result and a conflict results in assigning a bias, the result will be flagged JK.

- R Quality Control indicates that data are unusable for all purposes. The analyte was analyzed for, but the presence or absence of the analyte has not been verified. Resampling and reanalysis are necessary for verification to confirm or deny the presence of an analyte.
- N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

#### PAH FRACTION EVALUATION

# 1. Analytical Method:

Samples were prepared and analyzed using the procedures specified in SW-846 Method 8270D selective ion monitoring (SIM).

# 2. Holding Time:

The samples were received within the recommended  $\leq$ 6°C NFG limit. All samples were extracted within the required holding time of less than 7 days for waters and less than 14 days for solids/wastes after collection. Analysis of the samples was conducted within 40 days of extraction. No qualifications are placed on the data.

# 3. Tuning/Performance:

DFTPP tuning of the mass spectrometer(s) was conducted at the required frequency and results were within the required criteria. No qualifications are placed on the data.

#### 4. Initial Calibration:

All individual relative response factors (RRFs) and average RRFs for the initial calibration (IC) were greater than the compound dependent (see Table 34 of National Functional Guidelines) control limits. All percent relative standard deviations (%RSDs) were less than the compound dependent (see Table 34 of National Functional Guidelines) control limits or the correlation coefficient was > 0.990. No qualifications are placed on the data.

# 5. Continuing Calibration:

All individual RRFs for the initial calibration verification (ICV) and continuing calibration (CC) standards were greater than the compound dependent (see Table 34 of National Functional Guidelines) control limits. All percent differences (%Ds) were less than the compound dependent (see Table 34 of National Functional Guidelines) control limits. No qualifications are placed on the data.

#### 6. Blanks:

# A. Laboratory Blanks:

A method blank was prepared at the required frequency of every time samples were extracted for each matrix and concentration or every 20 samples whichever is greater. Target analytes were not detected in the method at concentrations that warrant blank action. No qualifications are placed on the data.

#### B Field Blanks:

No field blank samples were submitted with this analytical package. No qualifications are placed on the data.

## 7. System Monitoring Compounds (SMC):

All recoveries of the system monitoring compounds (surrogates) were within the control limits provided. No qualifications are placed on the data.

## 8. Duplicates:

# A. Laboratory Duplicate Analysis:

Sample EAS07-20190107-36-56 underwent matrix spike/matrix spike duplicate (MS/MSD) analysis for the solid matrix. QC criteria are that the relative percent difference (RPD) values for the duplicate sample analysis are less than 20% for aqueous samples and less than 35% for solid samples. All QC criteria were met. No qualifications are placed on the data.

# B. Field Duplicate Analysis:

No field duplicate samples were submitted with this analytical package. No qualifications are placed on the data.

# 9. Matrix Spike/Matrix Spike Duplicate:

Sample EAS07-20190107-36-56 underwent MS/MSD analysis for the solid matrix. Recoveries of all spiked analytes were within the control limits provided in both the matrix spike and matrix spike duplicate. No qualifications are placed on the data.

## 10. Internal Standards:

Areas of the six internal standards were within the control limits of a factor of 2 (-50% to +100%) and retention times were within 30 seconds from the associated 12 hour calibration standard. No qualifications are placed on the data.

# 11. Laboratory Control Sample (LCS):

The laboratory analyzed an LCS and recoveries were within the control limits provided. No qualifications are placed on the data.

#### 12. Target Compound Identification:

All target compounds reported by the laboratory met identification criteria of relative retention times (RRT) within 0.06 RRT units of the 12 hour standard and that all ions present in the standard mass spectrum were present in the sample mass spectrum and the abundance of these ions agreed within  $\pm$  20% of the standard. No qualifications are placed on the data.

## 13. Target Compound Quantitation and Reporting Limits:

Concentrations of all reported compounds were correctly calculated.

Reported concentrations less than the reporting limit (RL) qualified "J" by the laboratory are qualified "JQ" to indicate that the result is less than the RL but greater than the method detection limit (MDL).

## 14. Laboratory Contact:

The laboratory was contacted on February 4, 2019 regarding an incorrect sample weight on a run long and quantitation report for one sample. An acceptable response was received on February 7, 2019.

# 15. Overall Assessment

Reported concentrations less than the RL qualified "J" by the laboratory were qualified "JQ" to indicate that the result is less than the RL but greater than the MDL.

The analytical data is acceptable for use with the qualifications listed above.

# DATA QUALITY ASSURANCE REVIEW

SITE NAME	Frank J. Doy	le Salvage Removal Actio	n	
WORK ORDER	NUMBER	20600.012.001.1175.01	TDD NUMBER	0001/18-175
PROJECT NUME	BER		SDG NUMBER	HS19010219
20600.012.001.1175.0 analyzed for metals (A	)1; SDG No. As, Cd, Co, F	HS19010219; Frank J. D	oyle Salvage Rem ic Precipitation Le rs are listed below	of for Work Order Number oval Action. Four samples were aching Procedure (SPLP) metals
		SAMPLE NUM	DEKS	
DRA26-20190107-12-	56	EAS07-20190107-36-5	6 EA	AS08-20190107-36-56
FJD04-07-20190107-3	6-56			
			4 (0.0)	
USEPA National Fund National Functional Laboratory Program (April, 2016), Quality	ctional Guide Guidelines f National Fu Assurance/Ç l for Holdin	elines for Organic Superfu for Inorganic Superfund nctional Guidelines for H Quality Control Guidance g Times, Blanks, and Ve	nd Methods Data Data Review (Jas High Resolution St for Removal Acti	cations were achieved, following Review (January, 2017), USEPA nuary, 2017), USEPA Contractuperfund Methods Data Review vities (September, 2011), and/o (April 13, 1989). Specific data
REVIEWER	Gloria J. Swit	talski	DATE	February 8, 2019

#### **Data Qualifiers**

Data Qualifier Definitions were supplied by the Office of Solid Waste and Emergency Response (September 1989) and are included in the Functional Guidelines. Data qualifiers may be combined (UJ, QJ) with the corresponding combination of meanings. Additional qualifiers may be added to provide additional, more specific information (JL, UB, QJK), modifying the meaning of the primary qualifier. Additional qualifiers utilized by WESTON are H, L, K, B, and Q.

U - The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation or detection limit, which has been adjusted for sample weight/sample volume, extraction volume, percent solids, sample dilution or other analysis specific parameters.

An additional qualifier, "B", may be appended to indicate that while the analyte was detected in the sample, the presence of the analyte may be attributable to blank contamination and the analyte is therefore considered undetected with the sample detection or quantitation limit for the analyte being elevated.

J - The analyte was analyzed for, but the associated numerical value may not be consistent with the amount actually present in the environmental sample or may not be consistent with the sample detection or quantitation limit. The value is an estimated quantity. The data should be seriously considered for decision-making and are usable for many purposes.

An additional qualifier will be appended to the "J" qualifier that indicates the bias in the reported results:

- L Low bias
- H High bias
- K Unknown bias
- Q The reported concentration is less than the sample quantitation limit for the specific analyte in the sample.

The L and H qualifier will only be employed when a single qualification is required. When more than one quality control parameter affects the analytical result and a conflict results in assigning a bias, the result will be flagged JK.

- R Quality Control indicates that data are unusable for all purposes. The analyte was analyzed for, but the presence or absence of the analyte has not been verified. Resampling and reanalysis are necessary for verification to confirm or deny the presence of an analyte.
- N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

#### METALS DATA EVALUATION

#### 1. Analytical Method:

Samples were prepared and analyzed for ICP metals using the procedures specified in **SW-846 Method 6020A.** Samples were extracted for SPLP metals using the procedure specified in **SW-846 Method 1312.** 

# 2. Holding Times:

All samples met established holding time criteria of 180 days for ICP metals. No qualifications are placed on the data. All SPLP samples were extracted within the required holding time of less than 180 days for metals. No qualifications are placed on the data.

#### 3. Initial Calibration:

ICP initial calibration included a blank and five standards and initial calibration verification results fell within the control limits of 90% to 110% of the true values. No qualifications are placed on the data.

#### 4. Continuing Calibration:

All ICP results fell within the control limits of 90% to 110% of the true values. No qualifications are placed on the data.

#### 5. CRDL Standard:

All results for the CRDL standard were within the control limits of 70% to 130% of the true values or the sample results were greater than the CRDL action level. No qualifications are placed on the data.

#### 6. Blanks:

## A. Laboratory Blanks:

A method blank was prepared at the required frequency of every time samples were prepared/digested for each matrix or every 20 samples whichever is greater. Target analytes were not detected in the method and calibration blanks at concentrations that warrant blank action. No qualifications are placed on the data.

#### B. Field Blanks:

No field blank samples were submitted with this analytical package. No qualifications are placed on the data.

#### 7. ICP Interference Check:

All results for the interference check sample were within the control limits of 80% to 120% of the true values. No qualifications are placed on the data.

# 8. Laboratory Control Sample (LCS):

The recoveries for the LCS were within the control limits provided. No qualifications are placed on the data.

## 9. Duplicate Sample Analysis:

# A. Laboratory Duplicate Analysis:

Sample EAS07-20190107-36-56 underwent matrix spike/matrix spike duplicate (MS/MSD) analysis for Cd, Mn, & Ag for the SPLP matrix. QC criteria are that the relative percent difference (RPD) values for the duplicate sample analysis are less than 20% for aqueous samples and less than 35% for solid samples. All QC criteria were met. No qualifications are placed on the data.

## B. Field Duplicate Analysis:

No field duplicate samples were submitted with this analytical package. No qualifications are placed on the data.

#### 10. Spiked Sample Analysis:

Sample EAS07-20190107-36-56 underwent MS/MSD analysis for Cd, Mn, & Ag for the SPLP matrix. The spike recoveries for the all analytes were within the 75%-125% QC recovery limits for analytes whose sample concentration did not exceed the spike concentration by a factor of 4 times or more. The post digestion spike recoveries were acceptable. No qualifications are placed on the data.

## 11. ICP Serial Dilution:

Sample EAS07-20190107-36-56 underwent serial dilution for Cd, Mn, & Ag for the SPLP matrix. The percent difference (%D) values for serial dilution analysis were within the QC limits of 10% for all analytes whose concentrations were greater than 50 times their method detection limit (MDL). No qualifications are placed on the data.

## 12. Sample Quantitation and Reporting Limits:

Concentrations of all reported analytes were correctly calculated.

Reported concentrations less than the reporting limit (RL) qualified "J" by the laboratory are qualified "JQ" to indicate that the result is less than the RL but greater than the MDL.

Some ICP metals analytes in some samples were analyzed at a 20, 50, 100, or 200-fold dilution. Reporting limits for these analytes in these samples were elevated as a result of the dilutions performed.

### 13. Laboratory Contact

The laboratory was contacted on February 4, 2019 regarding the lack of raw data for SPLP metals. An acceptable response was received on February 7, 2019.

#### 14. Overall Assessment:

Reported concentrations less than the RL qualified "J" by the laboratory were qualified "JQ" to indicate that the result is less than the RL but greater than the MDL.

The analytical data is acceptable for use with the qualifications listed above.

Weston Solutions, Inc.

Project:

FJ Doyle RA/TX

Sample ID:

DRA26-20190107-12-56

Collection Date:

07-Jan-2019 12:49

**ANALYTICAL REPORT** 

WorkOrder:HS19010219 Lab ID:HS19010219-01

Matrix:Soil

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL PAHS		Method:	SW8270		Prep SW3541 / 0	8-Jan-2019	Analyst: GEY
Acenaphthene	0.0016	156	0.00065	0.0043	mg/Kg-dry	1	09-Jan-2019 15:10
Acenaphthylene	0.0020	₩ J	0.0013	0.0043	mg/Kg-dry	1	09-Jan-2019 15:10
Anthracene	0.0062		0.00065	0.0043	mg/Kg-dry	1	09-Jan-2019 15:10
Benz(a)anthracene	0.12		0.0021	0.0043	mg/Kg-dry	1	09-Jan-2019 15:10
Benzo(a)pyrene	0.19		0.0013	0.0043	mg/Kg-dry	1	09-Jan-2019 15:10
Benzo(b)fluoranthene	0.30	es (es secondo do de escendo de e	0.0016	0.0043	mg/Kg-dry	1	09-Jan-2019 15:10
Benzo(g,h,i)perylene	0.17		0.00091	0.0043	mg/Kg-dry	1	09-Jan-2019 15:10
Benzo(k)fluoranthene	0.12		0.0012	0.0043	mg/Kg-dry	1	09-Jan-2019 15:10
Chrysene	0.18		0.0010	0.0043	mg/Kg-dry	1	09-Jan-2019 15:10
Dibenz(a,h)anthracene	0.035	***************************************	0.0021	0.0043	mg/Kg-dry	1	09-Jan-2019 15:10
Fluoranthene	0.21		0.0014	0.0043	mg/Kg-dry	1	09-Jan-2019 15:10
Fluoren <b>e</b>	0.0016	かてや	0.0014	0.0043	mg/Kg-dry	1	09-Jan-2019 15:10
Indeno(1,2,3-cd)pyrene	0.18		0.0010	0.0043	mg/Kg-dry	1	09-Jan-2019 15:10
Naphthalene	U	***************************************	0.00078	0.0043	mg/Kg-dry	1	09-Jan-2019 15:10
Phenanthrene	0.038		0.0019	0,0043	mg/Kg-dry	1	09-Jan-2019 15:10
Pyrene	0.21		0.00078	0.0043	mg/Kg-dry	1	09-Jan-2019 15:10
Surr: 2-Fluorobiphenyl	65.2			43-125	%REC	1	09-Jan-2019 15:10
Surr: 4-Terphenyl-d14	68.7			32-125	%REC	1	09-Jan-2019 15:10
Surr: Nitrobenzene-d5	63.5			37-125	%REC	1	09-Jan-2019 15:10
PCBS BY SW8082A		Method:	SW8082		Prep:SW3541/36	55A / 08-Jan-	2019 Analyst: JLJ
Aroclor 1016	U		0.0056	0.022	mg/Kg-dry	1	09-Jan-2019 12:28
Aroclor 1221	U		0.0074	0.022	mg/Kg-dry	1	09-Jan-2019 12:28
Aroclor 1232	U		0.0059	0.022	mg/Kg-dry	1	09-Jan-2019 12:28
Aroclor 1242	U		0.0078	0.022	mg/Kg-dry	1	09-Jan-2019 12:28
Aroclor 1248	U		0.0078	0.022	mg/Kg-dry	1	09-Jan-2019 12:28
Aroclor 1254	U		0.0062	0,022	mg/Kg-dry	1	09-Jan-2019 12:28
Aroclor 1260	0.029		0.0053	0.022	mg/Kg-dry	1	09-Jan-2019 12:28
Surr: Decachlorobiphenyl	83. <i>5</i>			54-143	%REC	1	09-Jan-2019 12:28
Surr: Tetrachloro-m-xylene	79.6			50-140	%REC	1	09-Jan-2019 12:28
METALS BY SW6020A		Method:S	SW6020		Prep:SW3050A /	08-Jan-2019	Analyst: JHD
Arsenic	7.15		0.0889	0.635	mg/Kg-dry	1	09-Jan-2019 15:18
Cadmium	0.283	859	0.0343	0.635	mg/Kg-dry	1	09-Jan-2019 15:18
Cobalt	8.96		0.0191	0.635	mg/Kg-dry	1	09-Jan-2019 15:18
iron	24,000		46.5	1270	mg/Kg-dry	20	09-Jan-2019 16:11
Lead	28.6		0.0165	0.635	mg/Kg-dry	1	09-Jan-2019 15:18
Manganese	950		1.09	12.7	mg/Kg-dry	20	09-Jan-2019 16:11
MOISTURE - ASTM D2216	<b>^</b>	Method:AS	TM D2216		Pro Mili		Analyst: DFF
Percent Moisture	25.1		0.0100	0.0100	wt%	1	08-Jan-2019 10:57

Note: See Qualifiers Page for a list of qualifiers and their explanation.



& 24/19

Weston Solutions, Inc.

Project:

FJ Doyle RA/TX

Sample ID: Collection Date: EAS07-20190107-36-56 07-Jan-2019 12:37 **ANALYTICAL REPORT** 

WorkOrder:HS19010219 Lab ID:HS19010219-02

Matrix:Soil

Acenaphthylene U 0,00060 0,0040 mg/Kg-dry 1 08-Jan-2019 19 0,0061 mg/Kg-dry 1 08-Jan-2019 19 0,0062 mg/Kg-d								
Acenaphthylene  U 0,00060  O,0040  Mg/Kg-dry 1 08-Jan-2019 19  Benz(a)anthracene  0,0012  J 0,00060  O,0040  Mg/Kg-dry 1 08-Jan-2019 19  Benz(a)anthracene  0,0030  O,0019  O,0019  O,0040  Mg/Kg-dry 1 08-Jan-2019 19  Benz(a)ghyrene  0,0030  O,0012  O,0040  Mg/Kg-dry 1 08-Jan-2019 19  Benz(a)ghyrene  0,0030  O,0012  O,0040  Mg/Kg-dry 1 08-Jan-2019 19  Benz(a)ghyrene  0,0033  O,0014  O,0040  Mg/Kg-dry 1 08-Jan-2019 19  Benz(a)gh/thuranthene  0,0033  O,00984  O,0040  Mg/Kg-dry 1 08-Jan-2019 19  Benz(a)gh/thuranthene  0,0025  O,00010  O,0040  Mg/Kg-dry 1 08-Jan-2019 19  Benz(a)gh/thuranthene  0,0033  O,00984  O,0040  Mg/Kg-dry 1 08-Jan-2019 19  Benz(a)gh/thuranthene  0,0038  O,00096  O,0040  Mg/Kg-dry 1 08-Jan-2019 19  Dibenz(a,h)anthracene  U 0,0019  O,0040  Mg/Kg-dry 1 08-Jan-2019 19  Fluoranthene  U 0,0013  O,0040  Mg/Kg-dry 1 08-Jan-2019 19  Indeno(1,2,3-cd)pyrene  U 0,00072  O,0040  Mg/Kg-dry 1 08-Jan-2019 19  Naphthalene  U 0,00072  O,0040  Mg/Kg-dry 1 08-Jan-2019 19  Pyrene  0,0060  O,00072  O,0040  Mg/Kg-dry 1 08-Jan-2019 19  Pyrene  0,0060  O,0072  O,0074  O,0075  O,0076  O,0076  Mg/Kg-dry 1 09-Jan-2019 19  Arcolor 1224  U 0,0070  O,0076  O,0076  Mg/Kg-dry 1 09-Jan-2019 14  Arcolor 1248  U 0,0070  O,0076  M	ANALYSES	RESULT	QUAL	MDL		UNITS		
Anthracene 0.0012	LOW-LEVEL PAHS		Method	I:SW8270		Prep.SW3541 / 0	8-Jan-2019	Analyst: GEY
Anthracene 0.0012	Acenaphthene	U		0.00060	0.0040	mg/Kg-dry	1	08-Jan-2019 19:02
Benz(a)anthracene         0.0030         ✓ 0.0019         0.0040         mg/Kg-dry         1         08-Jan-2019         19           Benz(a)pyrene         0.0030         ✓ 0.0012         0.0040         mg/Kg-dry         1         08-Jan-2019         19           Benza(gh/liperylene         0.0033         ✓ 0.00084         0.0040         mg/Kg-dry         1         08-Jan-2019         19           Benza(gh/liperylene         0.0033         ✓ 0.00084         0.0040         mg/Kg-dry         1         08-Jan-2019         19           Benza(gh/liperylene         0.0033         ✓ 0.0011         0.0040         mg/Kg-dry         1         08-Jan-2019         19           Oloryaene         0.0038         ✓ 0.0019         0.0040         mg/Kg-dry         1         08-Jan-2019         19           Dibera(a)hanthracene         U         0.0013         0.0040         mg/Kg-dry         1         08-Jan-2019         19           Fluoranthene         U         0.0013         0.0040         mg/Kg-dry         1         08-Jan-2019         19           Riphthalene         U         0.0072         0.0040         mg/Kg-dry         1         08-Jan-2019         19           Pyerre         0.0056	Acenaphthylene	U		0.0012	0.0040	mg/Kg-dry	1	08-Jan-2019 19:02
Benzo(a)pyrene         0.0030         J         0.0012         0.0040         mg/Kg-dry         1         08-Jan-2019         19         Benzo(ph/Jucranthene         0.0034         J         0.0014         0.0040         mg/Kg-dry         1         08-Jan-2019         19         Benzo(ph, i)perylene         0.0034         J         0.00084         0.0040         mg/Kg-dry         1         08-Jan-2019         19         Benzo(ki)fuloranthene         0.0025         J         0.0011         0.0040         mg/Kg-dry         1         08-Jan-2019         19         19         10         0.0040         mg/Kg-dry         1         08-Jan-2019         19         10         10         0.0040         mg/Kg-dry         1         08-Jan-2019         19         10         10         0.0040         0.0040         0.0040         0.0040         0.0040         0.0040         0.0040         0.0040         0.0044         0.0044         0.0040         0.0040         0.0044 </td <td>Anthracene</td> <td>0.0012</td> <td>1</td> <td><b>Q</b> 0.00060</td> <td>0.0040</td> <td>mg/Kg-dry</td> <td>1</td> <td>08-Jan-2019 19:02</td>	Anthracene	0.0012	1	<b>Q</b> 0.00060	0.0040	mg/Kg-dry	1	08-Jan-2019 19:02
Benzo(b)/fluoranthene         0.0034         J         0.0014         0.0040         mg/Kg-dry         1         08-Jan-2019         19           Benzo(gh,i)perylene         0.0033         J         0.00084         0.0040         mg/Kg-dry         1         08-Jan-2019         19           Benzo(k)Ripuranthene         0.0025         J         0.0011         0.0040         mg/Kg-dry         1         08-Jan-2019         19           Chrysene         0.0038         J         0.0009         0.0040         mg/Kg-dry         1         08-Jan-2019         19           Dibenz(a,h)anthracene         U         0.0013         0.0040         mg/Kg-dry         1         08-Jan-2019         19           Fluoranthene         U         0.0013         0.0040         mg/Kg-dry         1         08-Jan-2019         19           Pituranthene         U         0.00072         0.0040         mg/Kg-dry         1         08-Jan-2019         19           Naphthalene         U         0.0072         0.0040         mg/Kg-dry         1         08-Jan-2019         19           Pyrene         0.0080         0.0072         0.0040         mg/Kg-dry         1         08-Jan-2019         19 <t< td=""><td>Benz(a)anthracene</td><td>0.0030</td><td>الا</td><td>0.0019</td><td>0.0040</td><td>mg/Kg-dry</td><td>1</td><td>08-Jan-2019 19:02</td></t<>	Benz(a)anthracene	0.0030	الا	0.0019	0.0040	mg/Kg-dry	1	08-Jan-2019 19:02
Benzo(g,h,l)perylene         0.0033         J. 0.00084         0.0040         mg/Kg-dry         1         0.8-Jan-2019         19         9         Benzo(k)fluoranthene         0.0025         J. 0.0011         0.0040         mg/Kg-dry         1         0.8-Jan-2019         19         10         0.8-Jan-2019         19         0.0040         mg/Kg-dry         1         0.8-Jan-2019         10	Benzo(a)pyrene	0.0030	المر	0.0012	0.0040	mg/Kg-dry	1	08-Jan-2019 19:02
Berzo(k)fluoranthene         0.0025         J         0.0011         0.0040         mg/kg-dry         1         08-Jan-2019         19         0.0096         0.0040         mg/kg-dry         1         08-Jan-2019         19         Diberz(â, h)anthracene         U         0.0019         0.0040         mg/kg-dry         1         08-Jan-2019         19         19         10         0.0040         mg/kg-dry         1         08-Jan-2019         19         10         10         10         10         10         10         10         10         11         10	Benzo(b)fluoranthene	0.0034	ا المر	0.0014	0.0040	mg/Kg-dry	1	08-Jan-2019 19:02
Chrysene         0.0038         J 0.00096         0.0040         mg/Kg-dry         1         08-Jan-2019         19         Dibenz(a,h)anthracene         U 0.0019         0.0040         mg/Kg-dry         1         08-Jan-2019         19         Fluoranthene         0.0068         0.0013         0.0040         mg/Kg-dry         1         08-Jan-2019         19         Fluoranthene         0.0040         mg/Kg-dry         1         08-Jan-2019         19         Indenot(1,2,3-cd)pyrene         0.0024         4"→20,00096         0.0040         mg/Kg-dry         1         08-Jan-2019         19         Naphthalene         U 0.00072         0.0040         mg/Kg-dry         1         08-Jan-2019         19         Naphthalene         U 0.00072         0.0040         mg/Kg-dry         1         08-Jan-2019         19         Naphthalene         U 0.0067         0.0018         0.0040         mg/Kg-dry         1         08-Jan-2019         19         Naphthalene         U 0.0067         0.0040         mg/Kg-dry         1         08-Jan-2019         19         Naphthalene         U 0.0067         0.0040         mg/Kg-dry         1         08-Jan-2019         19         Naphthalene         U 0.0067         0.0040         mg/Kg-dry         1         08-Jan-2019         10         Naphthalene </td <td>Benzo(g,h,i)perylene</td> <td>0.0033</td> <td>4</td> <td>0.00084</td> <td>0.0040</td> <td>mg/Kg-dry</td> <td>1</td> <td>08-Jan-2019 19:02</td>	Benzo(g,h,i)perylene	0.0033	4	0.00084	0.0040	mg/Kg-dry	1	08-Jan-2019 19:02
Dibenz(a,h)anthracene   U   0.0019   0.0040   mg/Kg-dry   1 0.8-Jan-2019   19	Benzo(k)fluoranthene	0.0025	4	0.0011	0.0040	mg/Kg-dry	1	08-Jan-2019 19:02
Fluoranthene   0.0068   0.0013   0.0040   mg/Kg-dry   1   08-Jan-2019   19   19   19   19   10   10   10	Chrysene	0.0038	ل عد	0.00096	0.0040	mg/Kg-dry	1	08-Jan-2019 19:02
Fluorene U 0.0013 0.0040 mg/Kg-dry 1 08-Jan-2019 19 Indeno(1,2,3-cd)pyrene 0.0024	Dibenz(a,h)anthracene	U	***************************************	0.0019	0.0040	mg/Kg-dry	1 .	08-Jan-2019 19:02
Indeno(1,2,3-cd)pyrene         0.0024         ✔─\$\$0.00096         0.0040         mg/Kg-dry         1         0.8-Jan-2019         19           Naphthalene         U         0.00072         0.0040         mg/Kg-dry         1         0.8-Jan-2019         19           Phenanthrene         0.0047         0.0018         0.0040         mg/Kg-dry         1         0.8-Jan-2019         19           Pyrene         0.0060         0.00072         0.0040         mg/Kg-dry         1         0.8-Jan-2019         19           Surr. 2-Fluorobiphenyl         70.8         43-125         %REC         1         0.8-Jan-2019         19           Surr. A-Terphenyl-dr4         76.3         32-126         %REC         1         0.8-Jan-2019         19           Surr. Nitrobenzene-d5         69.9         37-125         %REC         1         0.8-Jan-2019         19           PCBS BY SW8082A         Method:SW8082         Prep SW3541/3665A / 08-Jan-2019         Analyst J         Aroclor 124         U         0.0050         0.020         mg/Kg-dry         1         09-Jan-2019         12           Aroclor 1221         U         0.0054         0.020         mg/Kg-dry         1         09-Jan-2019         12           Ar	Fluoranthene	0.0068		0.0013	0.0040	mg/Kg-dry	1	08-Jan-2019 19:02
Naphthalene	Fluorene	U		0.0013	0.0040	mg/Kg-dry	1	08-Jan-2019 19:02
Phenanthrene   0.0047   0.0018   0.0040   mg/Kg-dry   1 08-Jan-2019   19	Indeno(1,2,3-cd)pyrene	0.0024	8	<b>PS</b> 0.00096	0.0040	mg/Kg-dry	1	08-Jan-2019 19:02
Pyrene   0.0060   0.00072   0.0040   mg/Kg-dry 1   0.8-Jan-2019   19	Naphthalene	U		0.00072	0.0040	mg/Kg-dry	1	08-Jan-2019 19:02
Surr: 2-Fluorobiphenyl         70.8         43-125         %REC         1         08-Jan-2019         19           Surr: 4-Terphenyl-d14         78.3         32-125         %REC         1         08-Jan-2019         19           Surr: Nitrobenzene-d5         69.9         37-125         %REC         1         08-Jan-2019         19           PCBS BY SW8082A         Method:SW8082         Prep SW3541/3665A / 08-Jan-2019         Analyst         J           Aroclor 1016         U         0.0050         0.020         mg/Kg-dry         1         09-Jan-2019         12           Aroclor 1221         U         0.0067         0.020         mg/Kg-dry         1         09-Jan-2019         12           Aroclor 1232         U         0.0070         0.020         mg/Kg-dry         1         09-Jan-2019         12           Aroclor 1248         U         0.0070         0.020         mg/Kg-dry         1         09-Jan-2019         12           Aroclor 1254         U         0.0056         0.020         mg/Kg-dry         1         09-Jan-2019         12           Aroclor 1260         9.3         0.48         2.0         mg/Kg-dry         1         09-Jan-2019         14           Surr:	Phenanthrene	0.0047		0.0018	0.0040	mg/Kg-dry	1	08-Jan-2019 19:02
Surr: 4-Terphenyl-d14         78.3         32-125         %REC         1         08-Jan-2019         19           Surr: Nitrobenzene-d5         69.9         37-125         %REC         1         08-Jan-2019         19           PCBS BY \$W8082A         Method:\$W8082         Prep \$W3541/36-55 A / 08-Jan-2019         Analyst: J         J           Arcolor 1016         U         0.0050         0.020         mg/Kg-dry         1         09-Jan-2019         12           Arcolor 1221         U         0.0054         0.020         mg/Kg-dry         1         09-Jan-2019         12           Arcolor 1232         U         0.0070         0.020         mg/Kg-dry         1         09-Jan-2019         12           Arcolor 1242         U         0.0070         0.020         mg/Kg-dry         1         09-Jan-2019         12           Arcolor 1254         U         0.0056         0.020         mg/Kg-dry         1         09-Jan-2019         12           Arcolor 1260         9.3         0.48         2.0         mg/Kg-dry         100         09-Jan-2019         12           Surr: Decachlorobiphenyl         9.4         54-143         %REC         100         09-Jan-2019         12	Pyrene	0.0060		0.00072	0.0040	mg/Kg-dry	1	08-Jan-2019 19:02
Surr. Nitrobenzene-d5         69.9         37-125         %REC         1         08-Jan-2019         19           PCBS BY SW8082A         Method:SW8082         Prep: SW/3541/3665A / 06-Jan-2019         Analyst: J         J           Aroclor 1016         U         0.0050         0.020         mg/Kg-dry         1         09-Jan-2019         12           Aroclor 1221         U         0.0067         0.020         mg/Kg-dry         1         09-Jan-2019         12           Aroclor 1232         U         0.0070         0.020         mg/Kg-dry         1         09-Jan-2019         12           Aroclor 1242         U         0.0070         0.020         mg/Kg-dry         1         09-Jan-2019         12           Aroclor 1254         U         0.0076         0.020         mg/Kg-dry         1         09-Jan-2019         12           Aroclor 1250         9.3         0.48         2.0         mg/Kg-dry         1         09-Jan-2019         14           Surr: Decachlorobiphenyl         0         JS         54-143         %REC         100         09-Jan-2019         12           Surr: Tetrachloro-m-xylene         88.0         50-140         %REC         1         09-Jan-2019         12 </td <td>Surr: 2-Fluorobiphenyl</td> <td>70.8</td> <td></td> <td></td> <td>43-125</td> <td>%REC</td> <td>1</td> <td>08-Jan-2019 19:02</td>	Surr: 2-Fluorobiphenyl	70.8			43-125	%REC	1	08-Jan-2019 19:02
PCBS BY SW8082A         Method:SW8082         Prep:SW3541/3665A / 08-Jan-2019         Analyst: J           Aroclor 1016         U         0.0050         0.020         mg/Kg-dry         1         09-Jan-2019         12           Aroclor 1221         U         0.0067         0.020         mg/Kg-dry         1         09-Jan-2019         12           Aroclor 1232         U         0.0070         0.020         mg/Kg-dry         1         09-Jan-2019         12           Aroclor 1242         U         0.0070         0.020         mg/Kg-dry         1         09-Jan-2019         12           Aroclor 1248         U         0.0070         0.020         mg/Kg-dry         1         09-Jan-2019         12           Aroclor 1254         U         0.0056         0.020         mg/Kg-dry         1         09-Jan-2019         12           Aroclor 1260         9.3         0.48         2.0         mg/Kg-dry         100         09-Jan-2019         14           Surr: Decachlorobiphenyl         0         JS         54-143         %REC         100         09-Jan-2019         12           Surr: Tetrachloro-m-xylene         0         JS         50-140         %REC         1         09-Jan-2019	Surr: 4-Terphenyl-d14	78.3		onnen annannen annan 1800 till till till till till till till ti	32-125	%REC	1	08-Jan-2019 19:02
Aroclor 1016 U 0.0050 0.020 mg/Kg-dry 1 09-Jan-2019 12 Aroclor 1221 U 0.0067 0.020 mg/Kg-dry 1 09-Jan-2019 12 Aroclor 1232 U 0.0054 0.020 mg/Kg-dry 1 09-Jan-2019 12 Aroclor 1242 U 0.0070 0.020 mg/Kg-dry 1 09-Jan-2019 12 Aroclor 1248 U 0.0070 0.020 mg/Kg-dry 1 09-Jan-2019 12 Aroclor 1254 U 0.0056 0.020 mg/Kg-dry 1 09-Jan-2019 12 Aroclor 1254 U 0.0056 0.020 mg/Kg-dry 1 09-Jan-2019 12 Aroclor 1250 9.3 0.48 2.0 mg/Kg-dry 100 09-Jan-2019 14 Surr: Decachiorobiphenyl 0 JS 54-143 %REC 100 09-Jan-2019 14 Surr: Decachiorobiphenyl 98.4 54-143 %REC 1 09-Jan-2019 12 Surr: Tetrachioro-m-xylene 88.0 50-140 %REC 1 09-Jan-2019 12 Surr: Tetrachioro-m-xylene 0 JS 50-140 %REC 1 09-Jan-2019 14 METALS BY SW6020A Method: SW6020 Prep SW3050A / 08-Jan-2019 15 Cadmium 0.665 0.0319 0.590 mg/Kg-dry 1 09-Jan-2019 15 Cobalt 25.5 0.0177 0.590 mg/Kg-dry 1 09-Jan-2019 15 Iron 17,300 2.16 59.0 mg/Kg-dry 1 09-Jan-2019 15 Iron 17,300 2.16 59.0 mg/Kg-dry 1 09-Jan-2019 15	Surr: Nitrobenzene-d5	69.9			37-125	%REC	1	08-Jan-2019 19:02
Aroclor 1221 U 0.0067 0.020 mg/Kg-dry 1 09-Jan-2019 12 Aroclor 1232 U 0.0054 0.020 mg/Kg-dry 1 09-Jan-2019 12 Aroclor 1242 U 0.0070 0.020 mg/Kg-dry 1 09-Jan-2019 12 Aroclor 1248 U 0.0070 0.020 mg/Kg-dry 1 09-Jan-2019 12 Aroclor 1254 U 0.0056 0.020 mg/Kg-dry 1 09-Jan-2019 12 Aroclor 1254 U 0.0056 0.020 mg/Kg-dry 1 09-Jan-2019 12 Aroclor 1260 9.3 0.48 2.0 mg/Kg-dry 100 09-Jan-2019 14 Surr: Decachlorobiphenyl 0 JS 54-143 %REC 100 09-Jan-2019 14 Surr: Decachlorobiphenyl 98.4 54-143 %REC 1 09-Jan-2019 12 Surr: Tetrachloro-m-xylene 88.0 50-140 %REC 1 09-Jan-2019 12 Surr: Tetrachloro-m-xylene 0 JS 50-140 %REC 1 09-Jan-2019 12 Surr: Tetrachloro-m-xylene 0 JS 50-140 %REC 1 09-Jan-2019 14 METALS BY SW6020A Method:SW6020 Prep:SW3050A / 08-Jan-2019 15 Cadmium 0.665 0.0319 0.590 mg/Kg-dry 1 09-Jan-2019 15 Cadmium 0.665 0.0319 0.590 mg/Kg-dry 1 09-Jan-2019 15 Cobalt 25.5 0.0177 0.590 mg/Kg-dry 1 09-Jan-2019 15 Iron 17,300 2.16 59.0 mg/Kg-dry 1 09-Jan-2019 15 Iron 17,300 2.16 59.0 mg/Kg-dry 1 09-Jan-2019 15	PCBS BY SW8082A	5719	Method	l:SW8082	The Committee of the Co	Prep:SW3541/36	65A / 08-Jan-	2019 Analyst: JLJ
Aroclor 1232 U 0.0054 0.020 mg/Kg-dry 1 09-Jan-2019 12 Aroclor 1242 U 0.0070 0.020 mg/Kg-dry 1 09-Jan-2019 12 Aroclor 1248 U 0.0070 0.020 mg/Kg-dry 1 09-Jan-2019 12 Aroclor 1254 U 0.0056 0.020 mg/Kg-dry 1 09-Jan-2019 12 Aroclor 1260 9.3 0.48 2.0 mg/Kg-dry 100 09-Jan-2019 14 Surr: Decachlorobiphenyl 0 JS 54-143 %REC 100 09-Jan-2019 14 Surr: Decachlorobiphenyl 98.4 54-143 %REC 1 09-Jan-2019 12 Surr: Tetrachloro-m-xylene 88.0 50-140 %REC 1 09-Jan-2019 12 Surr: Tetrachloro-m-xylene 0 JS 50-140 %REC 100 09-Jan-2019 14 METALS BY SW6020A Method: SW6020 Prep: SW3050A / 08-Jan-2019 15 Cadmium 0.665 0.0319 0.590 mg/Kg-dry 1 09-Jan-2019 15 Cadmium 0.665 0.0319 0.590 mg/Kg-dry 1 09-Jan-2019 15 Cobalt 25.5 0.0177 0.590 mg/Kg-dry 1 09-Jan-2019 15 Iron 17,300 2.16 59.0 mg/Kg-dry 1 09-Jan-2019 15 Iron 17,300 2.16 59.0 mg/Kg-dry 1 09-Jan-2019 15	Aroclor 1016	U		0.0050	0.020	mg/Kg-dry	1	09-Jan-2019 12:44
Aroclor 1242         U         0.0070         0.020         mg/Kg-dry         1         09-Jan-2019         12           Aroclor 1248         U         0.0070         0.020         mg/Kg-dry         1         09-Jan-2019         12           Aroclor 1254         U         0.0056         0.020         mg/Kg-dry         1         09-Jan-2019         12           Aroclor 1260         9.3         0.48         2.0         mg/Kg-dry         100         09-Jan-2019         14           Surr: Decachlorobiphenyl         0         JS         54-143         %REC         100         09-Jan-2019         14           Surr: Tetrachloro-m-xylene         88.0         50-140         %REC         1         09-Jan-2019         12           Surr: Tetrachloro-m-xylene         0         JS         50-140         %REC         1         09-Jan-2019         14           METALS BY SW6020A         Method:SW6020         Prep:SW3050A / 08-Jan-2019         Analyst: Ji           Arsenic         6.07         0.0827         0.590         mg/Kg-dry         1         09-Jan-2019         15           Cadmium         0.665         0.0319         0.590         mg/Kg-dry         1         09-Jan-2019         15 <td>Aroclor 1221</td> <td>U</td> <td></td> <td>0.0067</td> <td>0.020</td> <td>mg/Kg-dry</td> <td>1</td> <td>09-Jan-2019 12:44</td>	Aroclor 1221	U		0.0067	0.020	mg/Kg-dry	1	09-Jan-2019 12:44
Aroclor 1248 U 0.0070 0.020 mg/Kg-dry 1 09-Jan-2019 12: Aroclor 1254 U 0.0056 0.020 mg/Kg-dry 1 09-Jan-2019 12: Aroclor 1260 9.3 0.48 2.0 mg/Kg-dry 100 09-Jan-2019 14: Surr: Decachlorobiphenyl 0 JS 54-143 %REC 100 09-Jan-2019 14: Surr: Decachlorobiphenyl 98.4 54-143 %REC 1 09-Jan-2019 12: Surr: Tetrachloro-m-xylene 88.0 50-140 %REC 1 09-Jan-2019 12: Surr: Tetrachloro-m-xylene 0 JS 50-140 %REC 1 09-Jan-2019 14: METALS BY SW6020A Method: SW6020 Prep: SW3050A / 08-Jan-2019 15: Cadmium 0.665 0.0319 0.590 mg/Kg-dry 1 09-Jan-2019 15: Cadmium 0.665 0.0319 0.590 mg/Kg-dry 1 09-Jan-2019 15: Cobalt 25.5 0.0177 0.590 mg/Kg-dry 1 09-Jan-2019 15: Iron 17,300 2.16 59.0 mg/Kg-dry 1 09-Jan-2019 15: Iron 17,300 2.16 59.0 mg/Kg-dry 1 09-Jan-2019 15:	Aroclor 1232	U		0.0054	0.020	mg/Kg-dry	1	09-Jan-2019 12:44
Aroclor 1254 U 0.0056 0.020 mg/Kg-dry 1 09-Jan-2019 12:  Aroclor 1260 9.3 0.48 2.0 mg/Kg-dry 100 09-Jan-2019 14:  Surr: Decachlorobiphenyl 0 JS 54-143 %REC 100 09-Jan-2019 14:  Surr: Decachlorobiphenyl 98.4 54-143 %REC 1 09-Jan-2019 12:  Surr: Tetrachloro-m-xylene 88.0 50-140 %REC 1 09-Jan-2019 12:  Surr: Tetrachloro-m-xylene 0 JS 50-140 %REC 1 09-Jan-2019 12:  Surr: Tetrachloro-m-xylene 0 JS 50-140 %REC 100 09-Jan-2019 14:  METALS BY SW6020A Method: SW6020 Prep: SW3050A / 08-Jan-2019 Analyst: Ji  Arsenic 6.07 0.0827 0.590 mg/Kg-dry 1 09-Jan-2019 15:  Cadmium 0.665 0.0319 0.590 mg/Kg-dry 1 09-Jan-2019 15:  Cobalt 25.5 0.0177 0.590 mg/Kg-dry 1 09-Jan-2019 15:  Iron 17,300 2.16 59.0 mg/Kg-dry 1 09-Jan-2019 15:  Lead 25.3 0.0154 0.590 mg/Kg-dry 1 09-Jan-2019 15:	Aroclor 1242	U		0.0070	0.020	mg/Kg-dry	1	09-Jan-2019 12:44
Aroclor 1260         9.3         0.48         2.0         mg/Kg-dry         100         09-Jan-2019         14           Surr: Decachlorobiphenyl         0         JS         54-143         %REC         100         09-Jan-2019         14           Surr: Decachlorobiphenyl         98.4         54-143         %REC         1         09-Jan-2019         12           Surr: Tetrachloro-m-xylene         88.0         50-140         %REC         1         09-Jan-2019         12           Surr: Tetrachloro-m-xylene         0         JS         50-140         %REC         100         09-Jan-2019         14           METALS BY SW6020A         Method:SW6020         Prep:SW3050A / 08-Jan-2019         14           Arsenic         6.07         0.0827         0.590         mg/Kg-dry         1         09-Jan-2019         15           Cadmium         0.665         0.0319         0.590         mg/Kg-dry         1         09-Jan-2019         15           Cobalt         25.5         0.0177         0.590         mg/Kg-dry         1         09-Jan-2019         15           Iron         17,300         2.16         59.0         mg/Kg-dry         1         09-Jan-2019         15           Lead </td <td>Aroclor 1248</td> <td>U</td> <td></td> <td>0.0070</td> <td>0.020</td> <td>mg/Kg-dry</td> <td>1</td> <td>09-Jan-2019 12:44</td>	Aroclor 1248	U		0.0070	0.020	mg/Kg-dry	1	09-Jan-2019 12:44
Surr: Decachlorobiphenyl         0         JS         54-143         %REC         100         09-Jan-2019         14.           Surr: Decachlorobiphenyl         98.4         54-143         %REC         1         09-Jan-2019         12.           Surr: Tetrachloro-m-xylene         88.0         50-140         %REC         1         09-Jan-2019         12.           Surr: Tetrachloro-m-xylene         0         JS         50-140         %REC         100         09-Jan-2019         14.           METALS BY SW6020A         Method:SW6020         Prep:SW3050A / 08-Jan-2019         Analyst: Ji         Analyst: Ji           Arsenic         6.07         0.0827         0.590         mg/Kg-dry         1         09-Jan-2019         15:           Cadmium         0.665         0.0319         0.590         mg/Kg-dry         1         09-Jan-2019         15:           Cobalt         25.5         0.0177         0.590         mg/Kg-dry         1         09-Jan-2019         15:           Iron         17,300         2.16         59.0         mg/Kg-dry         1         09-Jan-2019         15:           Lead         25.3         0.0154         0.590         mg/Kg-dry         1         09-Jan-2019         15:<	Aroclor 1254	U		0.0056	0.020	mg/Kg-dry	1	09-Jan-2019 12:44
Surr: Decachlorobiphenyl         98.4         54-143         %REC         1         09-Jan-2019         12.           Surr: Tetrachloro-m-xylene         88.0         50-140         %REC         1         09-Jan-2019         12.           Surr: Tetrachloro-m-xylene         0         JS         50-140         %REC         100         09-Jan-2019         14.           METALS BY SW6020A         Method:SW6020         Prep:SW3050A / 08-Jan-2019         Analyst: Jh           Arsenic         6.07         0.0827         0.590         mg/Kg-dry         1         09-Jan-2019         15.           Cadmium         0.665         0.0319         0.590         mg/Kg-dry         1         09-Jan-2019         15.           Cobalt         25.5         0.0177         0.590         mg/Kg-dry         1         09-Jan-2019         15.           Iron         17,300         2.16         59.0         mg/Kg-dry         1         09-Jan-2019         15.           Lead         25.3         0.0154         0.590         mg/Kg-dry         1         09-Jan-2019         15.	Aroclor 1260	9.3		0.48	2.0	mg/Kg-dry	100	09-Jan-2019 14:04
Surr: Tetrachloro-m-xylene         88.0         50-140         %REC         1         09-Jan-2019         12.           Surr: Tetrachloro-m-xylene         0         JS         50-140         %REC         100         09-Jan-2019         14.           METALS BY SW6020A         Method:SW6020         Prep:SW3050A / 08-Jan-2019         Analyst: Jr         Arsenic         6.07         0.0827         0.590         mg/Kg-dry         1         09-Jan-2019         15:           Cadmium         0.665         0.0319         0.590         mg/Kg-dry         1         09-Jan-2019         15:           Cobalt         25.5         0.0177         0.590         mg/Kg-dry         1         09-Jan-2019         15:           Iron         17,300         2.16         59.0         mg/Kg-dry         1         09-Jan-2019         15:           Lead         25.3         0.0154         0.590         mg/Kg-dry         1         09-Jan-2019         15:	Surr: Decachlorobiphenyl	0	JS		54-143	%REC	100	09-Jan-2019 14:04
Surr: Tetrachloro-m-xylene         0         JS         50-140         %REC         100         09-Jan-2019         14-METALS BY SW6020A           METALS BY SW6020A         Method:SW6020         Prep:SW3050A / 08-Jan-2019         Analyst: Jh           Arsenic         6.07         0.0827         0.590         mg/Kg-dry         1         09-Jan-2019         15:           Cadmium         0.665         0.0319         0.590         mg/Kg-dry         1         09-Jan-2019         15:           Cobalt         25.5         0.0177         0.590         mg/Kg-dry         1         09-Jan-2019         15:           Iron         17,300         2.16         59.0         mg/Kg-dry         1         09-Jan-2019         15:           Lead         25.3         0.0154         0.590         mg/Kg-dry         1         09-Jan-2019         15:	Surr: Decachlorobiphenyl	98.4			54-143	%REC	1	09-Jan-2019 12:44
METALS BY SW6020A         Method:SW6020         Prep:SW3050A / 08-Jan-2019         Analyst: Jan-2019         Analyst: Jan-2019         Analyst: Jan-2019         Analyst: Jan-2019         Analyst: Jan-2019         Analyst: Jan-2019	Surr: Tetrachloro-m-xylene	88.0			50-140	%REC	1	09-Jan-2019 12:44
Arsenic         6.07         0.0827         0.590         mg/Kg-dry         1         09-Jan-2019         15:           Cadmium         0.665         0.0319         0.590         mg/Kg-dry         1         09-Jan-2019         15:           Cobalt         25.5         0.0177         0.590         mg/Kg-dry         1         09-Jan-2019         15:           Iron         17,300         2.16         59.0         mg/Kg-dry         1         09-Jan-2019         15:           Lead         25.3         0.0154         0.590         mg/Kg-dry         1         09-Jan-2019         15:	Surr: Tetrachloro-m-xylene	0	JS		50-140	%REC	100	09-Jan-2019 14:04
Arsenic         6.07         0.0827         0.590         mg/Kg-dry         1         09-Jan-2019         15:           Cadmium         0.665         0.0319         0.590         mg/Kg-dry         1         09-Jan-2019         15:           Cobalt         25.5         0.0177         0.590         mg/Kg-dry         1         09-Jan-2019         15:           Iron         17,300         2.16         59.0         mg/Kg-dry         1         09-Jan-2019         15:           Lead         25.3         0.0154         0.590         mg/Kg-dry         1         09-Jan-2019         15:	METALS BY SW6020A	500	Method	:SW6020	0.000	Prep:SW3050A /	08-Jan-2019	Analyst: JHD
Cobalt         25.5         0.0177         0.590         mg/Kg-dry         1         09-Jan-2019         15:           Iron         17,300         2.16         59.0         mg/Kg-dry         1         09-Jan-2019         15:           Lead         25.3         0.0154         0.590         mg/Kg-dry         1         09-Jan-2019         15:	Arsenic	6.07		0.0827	0.590	mg/Kg-dry	1	09-Jan-2019 15:20
Iron         17,300         2.16         59.0         mg/Kg-dry         1         09-Jan-2019         15:           Lead         25.3         0.0154         0.590         mg/Kg-dry         1         09-Jan-2019         15:	Cadmium	0.665	2 Emilian (1900)	0.0319	0.590	CONTRACTOR		09-Jan-2019 15:20
Iron         17,300         2.16         59.0         mg/Kg-dry         1         09-Jan-2019         15:           Lead         25.3         0.0154         0.590         mg/Kg-dry         1         09-Jan-2019         15:	Cobalt	25.5		0.0177	0.590	mg/Kg-dry	1	09-Jan-2019 15:20
Lead 25.3 0.0154 0.590 mg/Kg-dry 1 09-Jan-2019 15:	Iron	17,300		2.16	59.0	Martine and the control of the contr		09-Jan-2019 15:20
	Lead	25.3						09-Jan-2019 15:20
	Manganese	5,920		10.2	118			09-Jan-2019 16:13

Note: See Qualifiers Page for a list of qualifiers and their explanation.



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Weston Solutions, Inc.

EAS07-20190107-36-56

Project: Sample ID: FJ Doyle RA/TX

Collection Date:

07-Jan-2019 12:37

**ANALYTICAL REPORT** 

WorkOrder:HS19010219

Lab ID:HS19010219-02

Matrix:Soil

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
MOISTURE - ASTM D2216 Percent Moisture	N 17.2	lethod:AS	TM D2216 0.0100	0.0100	wt%	500 Sec.	Analyst: DFF 08-Jan-2019 10:57



Weston Solutions, Inc.

EAS07-20190107-36-56

Project:

FJ Doyle RA/TX

Sample ID: Collection Date:

07-Jan-2019 12:37

**ANALYTICAL REPORT** 

WorkOrder:HS19010219 Lab ID:HS19010219-03

Matrix:Soil

ANALYSES	RESULT QU	AL MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
SPLP PCBS BY SW8082A	Metho	od:SW1312/8082	Leache: SW1312 / 11-Jan-2019	Prep:SW35100	C/3665A / 11-Ja	<sup>n-</sup> Analyst: JLJ
Aroclor 1016	U	0.12	0.58	ug/L	1	11-Jan-2019 17:58
Aroclor 1221	U	0.12	0.58	ug/L	1	11-Jan-2019 17:58
Aroclor 1232	U	0.12	0.58	ug/L	1	11-Jan-2019 17:58
Aroclor 1242	U	0.12	0.58	ug/L	1	11-Jan-2019 17:58
Aroclor 1248	U	0.12	0.58	ug/L	1	11-Jan-2019 17:58
Aroclor 1254	U	0.12	0.58	ug/L	1	11-Jan-2019 17:58
Aroclor 1260	3.0	0.12	0.58	ug/L	1	11-Jan-2019 17:58
Surr: Decachlorobiphenyl	95.0	W. W	30-150	%REC	1	11-Jan-2019 17:58
Surr: Tetrachloro-m-xylene	90.8		30-150	%REC	1	11-Jan-2019 17:58
SPLP METALS BY SW6020A	Me	thod:SW6020	Leache:SW1312 / 11-Jan-2019	Prep:SW3010/	A / 14-Jan-2019	Analyst: JHD
Manganese	0.0919	0.000700	0.00500	mg/L	1	15-Jan-2019 22:47





Client: Project: Weston Solutions, Inc.

FJ Doyle RA/TX

Sample ID:

EAS08-20190107-36-56

Collection Date:

07-Jan-2019 12:31

**ANALYTICAL REPORT** 

WorkOrder:HS19010219 Lab ID:HS19010219-04

Matrix:Soil

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL PAHS		Method:S	SW8270	The Market Parket	Prep.SW3541 / 0	8-Jan-2019	Analyst: GEY
Acenaphthene	U		0.00060	0.0039	mg/Kg-dry	1	08-Jan-2019 20:00
Acenaphthylene	U	that the street property discourance and the street property and the street pr	0.0012	0.0039	mg/Kg-dry	1	08-Jan-2019 20:00
Anthracene	0.0012	PER	0.00060	0.0039	mg/Kg-dry	1	08-Jan-2019 20:00
Benz(a)anthracene	U	······································	0.0019	0.0039	mg/Kg-dry	1	08-Jan-2019 20:00
Benzo(a)pyrene	U		0.0012	0.0039	mg/Kg-dry	1	08-Jan-2019 20:00
Benzo(b)fluoranthene	0.0025	J JQ	0.0014	0.0039	mg/Kg-dry	1	08-Jan-2019 20:00
Benzo(g,h,i)perylene	0.0023	1	0.00084	0.0039	mg/Kg-dry	1	08-Jan-2019 20:00
Benzo(k)fluoranthene	0.0017	المر	0.0011	0.0039	mg/Kg-dry	1	08-Jan-2019 20:00
Chrysene	0.0014	رك مهر	0.00096	0.0039	mg/Kg-dry	1	08-Jan-2019 20:00
Dibenz(a,h)anthracene	U	MTC 011080-11000-128808000000000000000000000	0.0019	0.0039	mg/Kg-dry	1	08-Jan-2019 20:00
Fluoranthene	0.0016	PUB	0.0013	0.0039	mg/Kg-dry	1	08-Jan-2019 20:00
Fluorene	U		0.0013	0.0039	mg/Kg-dry	1	08-Jan-2019 20:00
Indeno(1,2,3-cd)pyrene	0.0012	120	0.00096	0.0039	mg/Kg-dry	1	08-Jan-2019 20:00
Naphthalene	U	·····	0.00072	0.0039	mg/Kg-dry	1	08-Jan-2019 20:00
Phenanthrene	U		0.0018	0.0039	mg/Kg-dry	1	08-Jan-2019 20:00
Pyrene	0.0018	SDP.	0.00072	0.0039	mg/Kg-dry	1	08-Jan-2019 20:00
Surr: 2-Fluorobiphenyl	68.7	`		43-125	%REC	1	08-Jan-2019 20:00
Surr: 4-Terphenyl-d14	76.6	***************************************	**************************************	32-125	%REC	1	08-Jan-2019 20:00
Surr: Nitrobenzene-d5	63.8			37-125	%REC	1	08-Jan-2019 20:00
PCBS BY SW8082A		Method:S	W8082		Prep:SW3541/36	65A / 08-Jan-	2019 Analyst: JLJ
Aroclor 1016	U		0.0050	0.020	mg/Kg-dry	1	09-Jan-2019 13:00
Aroclor 1221	U		0.0067	0.020	mg/Kg-dry	1	09-Jan-2019 13:00
Aroclor 1232	U		0.0054	0.020	mg/Kg-dry	1	09-Jan-2019 13:00
Aroclor 1242	U	•	0.0070	0.020	mg/Kg-dry	1	09-Jan-2019 13:00
Aroclor 1248	U		0.0070	0.020	mg/Kg-dry	1	09-Jan-2019 13:00
Aroclor 1254	U		0.0056	0.020	mg/Kg-dry	1	09-Jan-2019 13:00
Aroclor 1260	32		0.48	2.0	mg/Kg-dry	100	09-Jan-2019 14:20
Surr: Decachlorobiphenyl	0	JS		54-143	%REC	100	09-Jan-2019 14:20
Surr: Decachlorobiphenyl	180	s		54-143	%REC	1	09-Jan-2019 13:00
Surr: Tetrachloro-m-xylene	102			50-140	%REC	1	09-Jan-2019 13:00
Surr: Tetrachloro-m-xylene	0	JS		50-140	%REC	100	09-Jan-2019 14:20
METALS BY SW6020A		Method:S	W6020		Prep:SW3050A /	08-Jan-2019	Analyst: JHD
Arsenic	5.50	8-425 - Calaba (1888)	0.0809	0.578	mg/Kg-dry		09-Jan-2019 15:22
Cadmium	0.326	470	0.0312	0.578	mg/Kg-dry	1	09-Jan-2019 15:22
Cobalt	11.2	-4	0.0173	0.578	mg/Kg-dry	1	09-Jan-2019 15:22
ron	19,600	•••••••••••••••••••••••••••••••••••••••	2.12	57.8	mg/Kg-dry	1	09-Jan-2019 15:22
Lead	15.5		0.0150	0.578	mg/Kg-dry		09-Jan-2019 15:22
Manganese	1,850		4.97	57.8	mg/Kg-dry	* · ***	09-Jan-2019 16:25

Note: See Qualifiers Page for a list of qualifiers and their explanation.





Weston Solutions, Inc.

Project:

FJ Doyle RA/TX

Sample ID: Collection Date: EAS08-20190107-36-56

07-Jan-2019 12:31

**ANALYTICAL REPORT** 

WorkOrder:HS19010219

Lab ID:HS19010219-04

Matrix:Soil

ANALYSES	RESULT Q	QUAL MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
MOISTURE - ASTM D2216 Percent Moisture	<b>M</b> e: 16.7	thod:ASTM D2216 0.0100	0.0100	wt%	1	Analyst: DFF 08-Jan-2019 10:57

Note: See Qualifiers Page for a list of qualifiers and their explanation.



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Weston Solutions, Inc.

FJD04-07-20190107-36-56

Project:

FJ Doyle RA/TX

Sample ID: Collection Date:

07-Jan-2019 12:43

**ANALYTICAL REPORT** 

WorkOrder:HS19010219 Lab ID:HS19010219-05

Matrix:Soil

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL PAHS		Method:S	W8270	and the second second	Prep SW3541 / (	8-Jan-2019	Analyst: GEY
Acenaphthene	U		0.00059	0.0039	mg/Kg-dry	1	08-Jan-2019 20:19
Acenaphthylene	U	**************************************	0.0012	0.0039	mg/Kg-dry	1	08-Jan-2019 20:19
Anthracene	U		0.00059	0.0039	mg/Kg-dry	1	08-Jan-2019 20:19
Benz(a)anthracene	0.0025	y 367	0.0019	0.0039	mg/Kg-dry	1	08-Jan-2019 20:19
Benzo(a)pyrene	0.0028	J 1	0.0012	0.0039	mg/Kg-dry	1	08-Jan-2019 20:19
Benzo(b)fluoranthene	0.0034	كالمر	0.0014	0.0039	mg/Kg-dry	1	08-Jan-2019 20:19
Benzo(g,h,i)perylene	0.0044		0.00082	0.0039	mg/Kg-dry	1	08-Jan-2019 20:19
Benzo(k)fluoranthene	0.0022	8 JQ	0.0011	0.0039	mg/Kg-dry	1	08-Jan-2019 20:19
Chrysene	0.0026	ىل بو	0.00094	0.0039	mg/Kg-dry	1	08-Jan-2019 20:19
Dibenz(a,h)anthracene	U	*	0.0019	0.0039	mg/Kg-dry	1	08-Jan-2019 20:19
Fluoranthene	0.0034	J 700	0.0013	0.0039	mg/Kg-dry	1	08-Jan-2019 20:19
Fluorene	U		0.0013	0.0039	mg/Kg-dry	1	08-Jan-2019 20:19
Indeno(1,2,3-cd)pyrene	0.0030	J 050	0.00094	0.0039	mg/Kg-dry	1	08-Jan-2019 20:19
Naphthalene	U		0.00070	0.0039	mg/Kg-dry	1	08-Jan-2019 20:19
Phenanthrene	0.0024	J 50	0.0018	0.0039	mg/Kg-dry	1	08-Jan-2019 20:19
Pyrene	0.0030	رل س	0.00070	0.0039	mg/Kg-dry	1	08-Jan-2019 20:19
Surr: 2-Fluorobiphenyl	69.6			43-125	%REC	1	08-Jan-2019 20:19
Surr: 4-Terphenyl-d14	76.0		entidos com teles de la companya de	32-125	%REC	1	08-Jan-2019 20:19
Surr: Nitrobenzene-d5	68.2			37-125	%REC	1	08-Jan-2019 20:19
PCBS BY SW8082A		Method:S	W8082	animi <b>Tara</b>	Prep:SW3541/36	65A / 08-Jan	-2019 Analyst: JLJ
Aroclor 1016	U		0.0050	0.020	mg/Kg-dry	1	09-Jan-2019 13:16
Aroclor 1221	U	***************************************	0.0067	0.020	mg/Kg-dry	1	09-Jan-2019 13:16
Aroclor 1232	U		0.0053	0.020	mg/Kg-dry	1	09-Jan-2019 13:16
Aroclor 1242	U	***************************************	0.0070	0.020	mg/Kg-dry	1	09-Jan-2019 13:16
Aroclor 1248	, <b>U</b>		0.0070	0.020	mg/Kg-dry	1	09-Jan-2019 13:16
Aroclor 1254	U		0.0056	0.020	mg/Kg-dry	1	09-Jan-2019 13:16
Aroclor 1260	2.7		0.048	0.20	mg/Kg-dry	10	09-Jan-2019 14:36
Surr: Decachlorobiphenyl	113	J		54-143	%REC	10	09-Jan-2019 14:36
Surr: Decachlorobiphenyl	92.2			54-143	%REC	1	09-Jan-2019 13:16
Surr: Tetrachloro-m-xylene	80.9			50-140	%REC	1	09-Jan-2019 13:16
Surr: Tetrachloro-m-xylene	<b>92</b> .4	J		50-140	%REC	10	09-Jan-2019 14:36
METALS BY SW6020A		Method:	W6020	- 10 00 00 00 00 00 00 00 00 00 00 00 00	Prep:SW3050A	/ 08-Jan-2019	Analyst: JHD
Arsenic	3.22	•	0.0765	0.547	mg/Kg-drj	1 1	09-Jan-2019 15:25
Cadmium	0.270	PC &	0.0295	0.547	mg/Kg-dry	1	09-Jan-2019 15:25
Cobalt	4.87		0.0164	0.547	mg/Kg-dr	1 1	09-Jan-2019 15:25
Iron	9,920	neembournessenheembooks (1860)	2.00	54.7	mg/Kg-dr	1	09-Jan-2019 15:25
Lead	7.42		0.0142	0.547	mg/Kg-dry	1 1	09-Jan-2019 15:25
Manganese	990	CONSTRUCTION OF STREET	2.35	27.3	mg/Kg-dr	<i>y</i> 50	09-Jan-2019 16:27

Note: See Qualifiers Page for a list of qualifiers and their explanation.





Weston Solutions, Inc.

FJD04-07-20190107-36-56

Project: Sample ID: FJ Doyle RA/TX

Collection Date:

07-Jan-2019 12:43

**ANALYTICAL REPORT** 

WorkOrder:HS19010219

Lab ID:HS19010219-05

Matrix:Soil

ANALYSES	RESULT	QUAL MD	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
MOISTURE - ASTM D2216 Percent Moisture	N 15.9	Method:ASTM D22 <sup>-</sup> 0.010	Salar Sa	wt%	1	Analyst: DFF 08-Jan-2019 10:57

Note: See Qualifiers Page for a list of qualifiers and their explanation.



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Weston Solutions, Inc.

Project:

FJ Doyle RA/TX

Sample ID: Collection Date: FJD04-07-20190107-36-56 07-Jan-2019 12:43 **ANALYTICAL REPORT** 

WorkOrder:HS19010219 Lab ID:HS19010219-06

Matrix:Soil

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
SPLP PCBS BY SW8082A	M	ethod:SW13	12/8082	Leache: SW1312 / 11-Jan-2019	Prep:SW35100 2019	C/3665A / 11-Ja	<sup>n-</sup> Analyst: JLJ
Aroclor 1016	U		0.12	0.59	ug/L	1	11-Jan-2019 18:30
Aroclor 1221	U		0.12	0.59	ug/L	1	11-Jan-2019 18:30
Aroclor 1232	U		0.12	0.59	ug/L	1	11-Jan-2019 18:30
Aroclor 1242	U		0.12	0.59	ug/L	1	11-Jan-2019 18:30
Aroclor 1248	U		0.12	0.59	ug/L	1	11-Jan-2019 18:30
Aroclor 1254	U		0.12	0.59	ug/L	1	11-Jan-2019 18:30
Aroclor 1260	0.42	750	0.12	0.59	ug/L	1	11-Jan-2019 18:30
Surr: Decachlorobiphenyl	86.9	***************************************		30-150	%REC	1	11-Jan-2019 18:30
Surr: Tetrachloro-m-xylene	90.1			30-150	%REC	1	11-Jan-2019 18:30
SPLP METALS BY SW6020A		Method:SW	/6020	Leache:SW1312 / 11-Jan-2019	Prep:SW3010/	A / 14-Jan-2019	Analyst: JHD
Cadmium	U	0.0	00200	0.00200	mg/L	1	15-Jan-2019 22:57
Manganese	0.112	0.0	00700	0.00500	mg/L	1	15-Jan-2019 22:57
Silver	U	0.0	00200	0.00500	mg/L	1	15-Jan-2019 22:57





# DATA QUALITY ASSURANCE REVIEW

SITE NAME Frank J. Doy	le Salvage Removal Actio	n			
WORK ORDER NUMBER	20600.012.001.1175.01	TDD NUMBER	0001/18-175 HS19010410		
PROJECT NUMBER		SDG NUMBER			
Weston Solutions, Inc. (WES 20600.012.001.1175.01; SDG No. analyzed for Polychlorinated Biph below.	HS19010410; Frank J. Do	yle Salvage Remov			
	SAMPLE NUM	BERS			
DRA02-20190109-12-56	DRA03-20190109-12-	56 DRA	DRA03-20190109-12-57		
This data package was validated to USEPA National Functional Guidelines y Laboratory Program National Fu (April, 2016), Quality Assurance/9 the Regional Protocol for Holdin qualifications are listed in the follows:	elines for Organic Superfu for Inorganic Superfund unctional Guidelines for H Quality Control Guidance ug Times, Blanks, and V	nd Methods Data R Data Review (Janu Iigh Resolution Sup for Removal Activi	deview (January, 2017), USEPA lary, 2017), USEPA Contractor perfund Methods Data Review lities (September, 2011), and/o		
PEVIEWER Gloria I Swi	talski	DATE	February 1, 2010		

## **Data Qualifiers**

Data Qualifier Definitions were supplied by the Office of Solid Waste and Emergency Response (September 1989) and are included in the Functional Guidelines. Data qualifiers may be combined (UJ, QJ) with the corresponding combination of meanings. Additional qualifiers may be added to provide additional, more specific information (JL, UB, QJK), modifying the meaning of the primary qualifier. Additional qualifiers utilized by WESTON are H, L, K, B, and Q.

U - The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation or detection limit, which has been adjusted for sample weight/sample volume, extraction volume, percent solids, sample dilution or other analysis specific parameters.

An additional qualifier, "B", may be appended to indicate that while the analyte was detected in the sample, the presence of the analyte may be attributable to blank contamination and the analyte is therefore considered undetected with the sample detection or quantitation limit for the analyte being elevated.

J - The analyte was analyzed for, but the associated numerical value may not be consistent with the amount actually present in the environmental sample or may not be consistent with the sample detection or quantitation limit. The value is an estimated quantity. The data should be seriously considered for decision-making and are usable for many purposes.

An additional qualifier will be appended to the "J" qualifier that indicates the bias in the reported results:

- L Low bias
- H High bias
- K Unknown bias
- Q The reported concentration is less than the sample quantitation limit for the specific analyte in the sample.

The L and H qualifier will only be employed when a single qualification is required. When more than one quality control parameter affects the analytical result and a conflict results in assigning a bias, the result will be flagged JK.

- R Quality Control indicates that data are unusable for all purposes. The analyte was analyzed for, but the presence or absence of the analyte has not been verified. Resampling and reanalysis are necessary for verification to confirm or deny the presence of an analyte.
- N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

#### PCB FRACTION EVALUATION

# 1. Analytical Method:

Samples were prepared and analyzed for PCBs using the procedures specified in SW-846 Method 8082A.

#### 2. Holding Time:

The samples were received within the recommended  $\leq$ 6°C NFG limit. All samples were extracted within the required holding time of less than 1 year after collection. Analysis of the samples was conducted within 40 days of extraction. No qualifications are placed on the data.

## 3. Initial Calibration:

The correlation coefficient of the multipoint initial calibration was greater than or equal to 0.995 or the percent relative standard deviation (%RSD) was less than or equal to 20%. No qualifications are placed on the data.

## 4. Continuing Calibration:

The continuing calibration check was analyzed at the required frequency and met recovery requirements of 75%-125% [percent difference (%D) was less than 25%]. No qualifications are placed on the data.

#### 5. Blanks:

#### A. Laboratory Blanks:

A method blank was prepared at the required frequency of every time samples were extracted for each matrix and concentration or every 20 samples whichever is greater. No target analytes were detected in the method blanks at concentrations that warrant blank action. No qualifications are placed on the data.

## B. Field Blanks:

No field blank samples were submitted with this analytical package. No qualifications are placed on the data.

#### 6. Surrogates:

All recoveries of the surrogates were within the control limits provided or were diluted out. No qualifications are placed on the data.

# 7. Matrix Spikes/Matrix Spike Duplicates (MS/MSD):

No sample from this analytical package underwent MS/MSD analysis for the solid matrix. No qualifications are placed on the data.

## 8. Duplicates:

# A. Laboratory Duplicate Analysis:

No sample from this analytical package underwent MS/MSD analysis for the solid matrix. No qualifications are placed on the data.

## B. Field Duplicate Analysis:

The following sample pair was submitted as field duplicates for the solid matrix: DRA03-20190109-12-56/DRA03-20190109-12-57. QC criteria are that the RPD values for the field duplicate sample analysis be less than 30% for aqueous samples and less than 50% for solid samples for concentrations greater than five times the reporting limit (RL). For sample concentrations less than five times the RL, the QC criteria are that the absolute difference between the samples is less than two times the RL for aqueous samples or less than 3.5 times the RL for the solid matrix. All QC criteria were met with the following exception:

FIELD DUPLICATE SAMPLE PAIR	COMPOUND	MATRIX	RPD	AFFECTED SAMPLES	QUALIFIER FLAG
DRA03-20190109-12-56/ DRA03-20190109-12-57	Aroclor 1260	Solid	111	DRA03-20190109-12-56/ DRA03-20190109-12-57	JK

# 9. Laboratory Control Sample (LCS):

The laboratory analyzed an LCS and recoveries were within the control limits provided. No qualifications are placed on the data.

## 10. Target Compound Identification, Quantitation, and Reporting Limits:

Concentrations of all reported compounds were correctly calculated.

The %D between the column results were within the acceptance limits (≤25). No qualifications are placed on the data.

Some PCB samples were analyzed at a dilution for some compounds. Reporting limits for these compounds in these samples were elevated as a result of the dilutions performed.

# 11. Laboratory Contact:

No laboratory contact was required.

#### 12. Overall Assessment:

The Aroclor 1260 result in the field duplicate pair was estimated due to poor precision.

The analytical data is acceptable for use with the qualifications listed above.

# DATA QUALITY ASSURANCE REVIEW

SITE NAME Frank J. Doy	le Salvage Removal Actio	n			
WORK ORDER NUMBER	20600.012.001.1175.01	TDD NUMBER	0001/18-175 HS19010410		
PROJECT NUMBER		SDG NUMBER			
Weston Solutions, Inc. (WES 20600.012.001.1175.01; SDG No. analyzed for Polynuclear Aromatic below.	HS19010410; Frank J. Do	yle Salvage Remov			
	SAMPLE NUM	BERS			
DRA02-20190109-12-56	DRA03-20190109-12-	56 DRA	DRA03-20190109-12-57		
This data package was validated to USEPA National Functional Guidelines y Laboratory Program National Fu (April, 2016), Quality Assurance/9	elines for Organic Superfu for Inorganic Superfund inctional Guidelines for H	nd Methods Data R Data Review (Janu Iigh Resolution Sup	Peview (January, 2017), USEP Dary, 2017), USEPA Contrac Derfund Methods Data Review		
the Regional Protocol for Holdin qualifications are listed in the follo	g Times, Blanks, and V				
PEVIEWER Gloria I Swi	taleki	DATE	February 1 2010		

## **Data Qualifiers**

Data Qualifier Definitions were supplied by the Office of Solid Waste and Emergency Response (September 1989) and are included in the Functional Guidelines. Data qualifiers may be combined (UJ, QJ) with the corresponding combination of meanings. Additional qualifiers may be added to provide additional, more specific information (JL, UB, QJK), modifying the meaning of the primary qualifier. Additional qualifiers utilized by WESTON are H, L, K, B, and Q.

U - The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation or detection limit, which has been adjusted for sample weight/sample volume, extraction volume, percent solids, sample dilution or other analysis specific parameters.

An additional qualifier, "B", may be appended to indicate that while the analyte was detected in the sample, the presence of the analyte may be attributable to blank contamination and the analyte is therefore considered undetected with the sample detection or quantitation limit for the analyte being elevated.

J - The analyte was analyzed for, but the associated numerical value may not be consistent with the amount actually present in the environmental sample or may not be consistent with the sample detection or quantitation limit. The value is an estimated quantity. The data should be seriously considered for decision-making and are usable for many purposes.

An additional qualifier will be appended to the "J" qualifier that indicates the bias in the reported results:

- L Low bias
- H High bias
- K Unknown bias
- Q The reported concentration is less than the sample quantitation limit for the specific analyte in the sample.

The L and H qualifier will only be employed when a single qualification is required. When more than one quality control parameter affects the analytical result and a conflict results in assigning a bias, the result will be flagged JK.

- R Quality Control indicates that data are unusable for all purposes. The analyte was analyzed for, but the presence or absence of the analyte has not been verified. Resampling and reanalysis are necessary for verification to confirm or deny the presence of an analyte.
- N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

#### PAH FRACTION EVALUATION

# 1. Analytical Method:

Samples were prepared and analyzed using the procedures specified in SW-846 Method 8270D selective ion monitoring (SIM).

# 2. Holding Time:

The samples were received within the recommended  $\leq$ 6°C NFG limit. All samples were extracted within the required holding time of less than 7 days for waters and less than 14 days for solids/wastes after collection. Analysis of the samples was conducted within 40 days of extraction. No qualifications are placed on the data.

# 3. Tuning/Performance:

DFTPP tuning of the mass spectrometer(s) was conducted at the required frequency and results were within the required criteria. No qualifications are placed on the data.

#### 4. Initial Calibration:

All individual relative response factors (RRFs) and average RRFs for the initial calibration (IC) were greater than the compound dependent (see Table 34 of National Functional Guidelines) control limits. All percent relative standard deviations (%RSDs) were less than the compound dependent (see Table 34 of National Functional Guidelines) control limits or the correlation coefficient was > 0.990. No qualifications are placed on the data.

## 5. Continuing Calibration:

All individual RRFs for the initial calibration verification (ICV) and continuing calibration (CC) standards were greater than the compound dependent (see Table 34 of National Functional Guidelines) control limits. All percent differences (%Ds) were less than the compound dependent (see Table 34 of National Functional Guidelines) control limits. No qualifications are placed on the data.

#### 6. Blanks:

## A. Laboratory Blanks:

A method blank was prepared at the required frequency of every time samples were extracted for each matrix and concentration or every 20 samples whichever is greater. Target analytes were not detected in the method at concentrations that warrant blank action. No qualifications are placed on the data.

#### B. Field Blanks:

No field blank samples were submitted with this analytical package. No qualifications are placed on the data.

## 7. System Monitoring Compounds (SMC):

All recoveries of the system monitoring compounds (surrogates) were within the control limits provided. No qualifications are placed on the data.

## 8. Duplicates:

# A. Laboratory Duplicate Analysis:

No sample from this analytical package underwent matrix spike/matrix spike duplicate (MS/MSD) analysis. No qualifications are placed on the data.

## B. Field Duplicate Analysis:

The following sample pair was submitted as field duplicates for the solid matrix: DRA03-20190109-12-56/DRA03-20190109-12-57. QC criteria are that the RPD values for the field duplicate sample analysis be less than 30% for aqueous samples and less than 50% for solid samples for concentrations greater than five times the reporting limit (RL). For sample concentrations less than five times the RL, the QC criteria are that the absolute difference between the samples is less than two times the RL for aqueous samples or less than 3.5 times the RL for the solid matrix. All QC criteria were met. No qualifications are placed on the data.

# 9. Matrix Spike/Matrix Spike Duplicate:

No sample from this analytical package underwent MS/MSD analysis. No qualifications are placed on the data.

#### 10. Internal Standards:

Areas of the six internal standards were within the control limits of a factor of 2 (-50% to +100%) and retention times were within 30 seconds from the associated 12 hour calibration standard. No qualifications are placed on the data.

# 11. Laboratory Control Sample (LCS):

The laboratory analyzed an LCS and recoveries were within the control limits provided. No qualifications are placed on the data.

## 12. Target Compound Identification:

All target compounds reported by the laboratory met identification criteria of relative retention times (RRT) within 0.06 RRT units of the 12 hour standard and that all ions present in the standard mass spectrum were present in the sample mass spectrum and the abundance of these ions agreed within  $\pm$  20% of the standard. No qualifications are placed on the data.

## 13. Target Compound Quantitation and Reporting Limits:

Concentrations of all reported compounds were correctly calculated.

Reported concentrations less than the RL qualified "J" by the laboratory are qualified "JQ" to indicate that the result is less than the RL but greater than the method detection limit (MDL).

## 14. Laboratory Contact:

No laboratory contact was required.

# 15. Overall Assessment

Reported concentrations less than the RL qualified "J" by the laboratory were qualified "JQ" to indicate that the result is less than the RL but greater than the MDL.

The analytical data is acceptable for use with the qualifications listed above.

# DATA QUALITY ASSURANCE REVIEW

SITE NAME	Frank J. Doy	le Salvage Removal Actio	on	
WORK ORDER	R NUMBER	20600.012.001.1175.01	TDD NUMBE	R 0001/18-175
PROJECT NUMBER			SDG NUMBE	HS19010410
20600.012.001.1175	5.01; SDG No.	HS19010410; Frank J. D	oyle Salvage Ren	ew for Work Order Number noval Action. Three samples were ple numbers are listed below.
		SAMPLE NUM	BERS	
DRA02-20190109-1	2-56	DRA03-20190109-12-	56 <u>I</u>	DRA03-20190109-12-57
USEPA National Fu National Functiona Laboratory Program (April, 2016), Quality	nctional Guide l Guidelines f n National Fu ity Assurance/Ç col for Holdin	elines for Organic Superfi for Inorganic Superfund nctional Guidelines for I Quality Control Guidance g Times, Blanks, and V	ind Methods Data Data Review (J High Resolution e for Removal Ac	fications were achieved, following a Review (January, 2017), USEPA anuary, 2017), USEPA Contract Superfund Methods Data Review tivities (September, 2011), and/or (April 13, 1989). Specific data
REVIEWER	Gloria J. Swit	alski	DATI	E February 5, 2019

# **Data Qualifiers**

Data Qualifier Definitions were supplied by the Office of Solid Waste and Emergency Response (September 1989) and are included in the Functional Guidelines. Data qualifiers may be combined (UJ, QJ) with the corresponding combination of meanings. Additional qualifiers may be added to provide additional, more specific information (JL, UB, QJK), modifying the meaning of the primary qualifier. Additional qualifiers utilized by WESTON are H, L, K, B, and Q.

U - The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation or detection limit, which has been adjusted for sample weight/sample volume, extraction volume, percent solids, sample dilution or other analysis specific parameters.

An additional qualifier, "B", may be appended to indicate that while the analyte was detected in the sample, the presence of the analyte may be attributable to blank contamination and the analyte is therefore considered undetected with the sample detection or quantitation limit for the analyte being elevated.

J - The analyte was analyzed for, but the associated numerical value may not be consistent with the amount actually present in the environmental sample or may not be consistent with the sample detection or quantitation limit. The value is an estimated quantity. The data should be seriously considered for decision-making and are usable for many purposes.

An additional qualifier will be appended to the "J" qualifier that indicates the bias in the reported results:

- L Low bias
- H High bias
- K Unknown bias
- Q The reported concentration is less than the sample quantitation limit for the specific analyte in the sample.

The L and H qualifier will only be employed when a single qualification is required. When more than one quality control parameter affects the analytical result and a conflict results in assigning a bias, the result will be flagged JK.

- R Quality Control indicates that data are unusable for all purposes. The analyte was analyzed for, but the presence or absence of the analyte has not been verified. Resampling and reanalysis are necessary for verification to confirm or deny the presence of an analyte.
- N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

#### METALS DATA EVALUATION

### 1. Analytical Method:

Samples were prepared and analyzed for ICP metals using the procedures specified in SW-846 Method 6020A.

# 2. Holding Times:

All samples met established holding time criteria of 180 days for ICP metals. No qualifications are placed on the data.

#### 3. Initial Calibration:

ICP initial calibration included a blank and five standards and initial calibration verification results fell within the control limits of 90% to 110% of the true values. No qualifications are placed on the data.

# 4. Continuing Calibration:

All ICP results fell within the control limits of 90% to 110% of the true values. No qualifications are placed on the data.

#### 5. CRDL Standard:

All results for the CRDL standard were within the control limits of 70% to 130% of the true values or the sample results were greater than the CRDL action level. No qualifications are placed on the data.

#### 6. Blanks:

#### A. Laboratory Blanks:

A method blank was prepared at the required frequency of every time samples were prepared/digested for each matrix or every 20 samples whichever is greater. Target analytes were not detected in the method and calibration blanks at concentrations that warrant blank action. No qualifications are placed on the data.

#### B. Field Blanks:

No field blank samples were submitted with this analytical package. No qualifications are placed on the data.

#### 7. ICP Interference Check:

All results for the interference check sample were within the control limits of 80% to 120% of the true values. No qualifications are placed on the data.

#### 8. Laboratory Control Sample (LCS):

The recoveries for the LCS were within the control limits provided. No qualifications are placed on the data.

# 9. Duplicate Sample Analysis:

# A. Laboratory Duplicate Analysis:

No sample from this analytical package underwent matrix spike/matrix spike duplicate (MS/MSD) analysis for ICP metals for the solid matrix. No qualifications are placed on the data.

# B. Field Duplicate Analysis:

The following sample pair was submitted as field duplicates for the solid matrix: DRA03-20190109-12-56/DRA03-20190109-12-57. QC criteria are that the RPD values for the field duplicate sample analysis be less than 30% for aqueous samples and less than 50% for solid samples for concentrations greater than five times the reporting limit (RL). For sample concentrations less than five times the RL, the QC criteria are that the absolute difference between the samples is less than two times the RL for aqueous samples or less than 3.5 times the RL for the solid matrix. All QC criteria were met. No qualifications are placed on the data.

# 10. Spiked Sample Analysis:

No sample from this analytical package underwent MS/MSD analysis for ICP metals for the solid matrix. No qualifications are placed on the data.

## 11. ICP Serial Dilution:

No sample from this analytical package underwent serial dilution for the solid matrix for ICP metals. No qualifications are placed on the data.

#### 12. Sample Quantitation and Reporting Limits:

Concentrations of all reported analytes were correctly calculated.

Reported concentrations less than the RL qualified "J" by the laboratory are qualified "JQ" to indicate that the result is less than the RL but greater than the method detection limit (MDL).

Some ICP metals analytes in some samples were analyzed at a 50-fold dilution. Reporting limits for these analytes in these samples were elevated as a result of the dilutions performed.

# 13. Laboratory Contact

No laboratory contact was required.

## 14. Overall Assessment:

Reported concentrations less than the RL qualified "J" by the laboratory were qualified "JQ" to indicate that the result is less than the RL but greater than the MDL.

The analytical data is acceptable for use with the qualifications listed above.

Client: Project: Weston Solutions, Inc.

DRA02-20190109-12-56

FJ Doyle RA/TX

Collection Date:

Sample ID:

09-Jan-2019 14:47

**ANALYTICAL REPORT** 

WorkOrder:HS19010410 Lab ID:HS19010410-01

Matrix:Soil

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL PAHS		Method:	SW8270	activities of the second secon	Prep:SW3541 / 1	0-Jan-2019	Analyst: GEY
Acenaphthene	U		0.00067	0.0044	mg/Kg-dry	1	11-Jan-2019 14:53
Acenaphthylene	U		0.0013	0.0044	mg/Kg-dry	1	11-Jan-2019 14:53
Anthracene	U		0.00067	0.0044	mg/Kg-dry	1	11-Jan-2019 14:53
Benz(a)anthracene	0.0022	A 76	0.0022	0.0044	mg/Kg-dry	1 .	11-Jan-2019 14:53
Benzo(a)pyrene	0.0022	1	0.0013	0.0044	mg/Kg-dry	1	11-Jan-2019 14:53
Benzo(b)fluoranthene	0.0025	1	0.0016	0.0044	mg/Kg-dry	1	11-Jan-2019 14:53
Benzo(g,h,i)perylene	0.0021	5	0.00094	0.0044	mg/Kg-dry	1	11-Jan-2019 14:53
Benzo(k)fluoranthene	0.0017	1	0.0012	0.0044	mg/Kg-dry	1	11-Jan-2019 14:53
Chrysene	0.0028	7	0.0011	0.0044	mg/Kg-dry	1	11-Jan-2019 14:53
Dibenz(a,h)anthracene	U		0.0022	0.0044	mg/Kg-dry	1	11-Jan-2019 14:53
Fluoranthene	0.0044	400	0.0015	0.0044	mg/Kg-dry	1	11-Jan-2019 14:53
Fluorene	U		0.0015	0.0044	mg/Kg-dry	1	11-Jan-2019 14:53
indeno(1,2,3-cd)pyrene	0.0019	400	0.0011	0.0044	mg/Kg-dry	1	11-Jan-2019 14:53
Naphthalene	U	***************************************	0.00081	0.0044	mg/Kg-dry	1	11-Jan-2019 14:53
Phenanthrene	U		0.0020	0.0044	mg/Kg-dry	1	11-Jan-2019 14:53
Pyrene	0.0035	JTC 4	0.00081	0.0044	mg/Kg-dry	1	11-Jan-2019 14:53
Surr: 2-Fluorobiphenyl	66.0	,		43-125	%REC	1	11-Jan-2019 14:53
Surr: 4-Terphenyl-d14	74.3			32-125	%REC	1	11-Jan-2019 14:53
Surr: Nitrobenzene-d5	63.2			37-125	%REC	1	11-Jan-2019 14:53
PCBS BY SW8082A	. AP	Method:	SW8082		Prep:SW3541/36	665 <b>A</b> / 10-Jan	2019 Analyst: JLJ
Aroclor 1016	U		0.0056	0.022	mg/Kg-dry	1	11-Jan-2019 14:00
Aroclor 1221	U		0.0075	0.022	mg/Kg-dry	1	11-Jan-2019 14:00
Aroclor 1232	U		0.0061	0.022	mg/Kg-dry	1	11-Jan-2019 14:00
Aroclor 1242	U	or real control of the control of th	0.0079	0.022	mg/Kg-dry	1	11-Jan-2019 14:00
Aroclor 1248	U		0.0079	0.022	mg/Kg-dry	1	11-Jan-2019 14:00
Aroclor 1254	U		0.0063	0.022	mg/Kg-dry	1	11-Jan-2019 14:00
Aroclor 1260	0.038		0.0054	0.022	mg/Kg-dry	1	11-Jan-2019 14:00
Surr: Decachlorobiphenyl	104			54-143	%REC	1	11-Jan-2019 14:00
Surr: Tetrachloro-m-xylene	94.4			50-140	%REC	1	11-Jan-2019 14:00
METALS BY SW6020A		Method:	SW6020	77.00 F-0.00	Prep:SW3050A	/ 10-Jan-2019	Analyst: RPM
Arsenic	8.73		0.0862	0.616	mg/Kg-dry	1	11-Jan-2019 17:41
Cadmium	0.406	#JT	0.0332	0.616	mg/Kg-dry	1	11-Jan-2019 17:41
Cobalt	12.7		0.0185	0.616	mg/Kg-dry	1	11-Jan-2019 17:41
Iron	27,900		113	3080	mg/Kg-dry	50	11-Jan-2019 18:22
Lead	25.4		0.0160	0.616	mg/Kg-dry	1	11-Jan-2019 17:41
Manganese	1,660		2.65	30.8	mg/Kg-dry	50	11-Jan-2019 18:22
MOISTURE - ASTM D2216	SSSSSSSSSSS	Method:A5	STM D2216				Analyst; DFF
Percent Moisture	25.8		0.0100	0.0100	wt%	1	11-Jan-2019 08:25

Note: See Qualifiers Page for a list of qualifiers and their explanation.



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Weston Solutions, Inc.

Project: Sample ID: FJ Doyle RA/TX DRA03-20190109-12-56

Collection Date:

09-Jan-2019 14:25

**ANALYTICAL REPORT** 

WorkOrder:HS19010410 Lab ID:HS19010410-02

Matrix:Soil

onection date. 03-0an-2019 14.23				Width A.Soli			
ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL PAHS	8 - P	Method:S	W8270		Prep:SW3541 / 1	0-Jan-2019	Analyst: GEY
Acenaphthene	U	A	0.00066	0.0043	mg/Kg-dry	1	11-Jan-2019 15:12
Acenaphthylene	U		0.0013	0.0043	mg/Kg-dry	1	11-Jan-2019 15:12
Anthracene	U		0.00066	0.0043	mg/Kg-dry	1	11-Jan-2019 15:12
Benz(a)anthracene	U		0.0021	0,0043	mg/Kg-dry	1	11-Jan-2019 15:12
Benzo(a)pyrene	0.0015	DCT	0.0013	0.0043	mg/Kg-dry	1	11-Jan-2019 15:12
Benzo(b)fluoranthene	U		0.0016	0.0043	mg/Kg-dry	1	11-Jan-2019 15:12
Benzo(g,h,i)perylene	0.0015	X DR	0.00092	0.0043	mg/Kg-dry	1	11-Jan-2019 15:12
Benzo(k)fluoranthene	0.0017	1	0.0012	0.0043	mg/Kg-dry	1	11-Jan-2019 15:12
Chrysene	0.0016	1	0.0011	0.0043	mg/Kg-dry	1	11-Jan-2019 15:12
Dibenz(a,h)anthracene	U		0.0021	0.0043	mg/Kg-dry	1	11-Jan-2019 15:12
Fluoranthene	0.0023	¥ JQ	0.0014	0.0043	mg/Kg-dry	1	11-Jan-2019 15:12
Fluorene	U		0.0014	0.0043	mg/Kg-dry	1	11-Jan-2019 15:12
Indeno(1,2,3-cd)pyrene	U		0.0011	0.0043	mg/Kg-dry	1	11-Jan-2019 15:12
Naphthalene	Ü	**************************************	0.00079	0.0043	mg/Kg-dry	1	11-Jan-2019 15:12
Phenanthrene	U		0.0020	0.0043	mg/Kg-dry	1	11-Jan-2019 15:12
Pyrene	0.0027	4JQ	0.00079	0.0043	mg/Kg-dry	1	11-Jan-2019 15:12
Surr: 2-Fluorobiphenyl	69.8	•		43-125	%REC	1	11-Jan-2019 15:12
Surr: 4-Terphenyl-d14	69.9			32-125	%REC	1	11-Jan-2019 15:12
Surr: Nitrobenzene-d5	63.3			37-125	%REC	1	11-Jan-2019 15:12
PCBS BY SW8082A		Method:S	W8082		Prep:SW3541/36	65A / 10-Jan-	2019 Analyst: JLJ
Aroclor 1016	U		0.0056	0.022	mg/Kg-dry	1	11-Jan-2019 14:16
Aroclor 1221	U		0.0074	0.022	mg/Kg-dry	1	11-Jan-2019 14:16
Aroclor 1232	U		0.0059	0.022	mg/Kg-dry	1	11-Jan-2019 14:16
Aroclor 1242	U		0.0078	0.022	mg/Kg-dry	1	11-Jan-2019 14:16
Aroclor 1248	U		0.0078	0.022	mg/Kg-dry	1	11-Jan-2019 14:16
Aroclor 1254	U		0.0062	0.022	mg/Kg-dry	1	11-Jan-2019 14:16
Aroclor 1260	30	ゴベ	0.53	2.2	mg/Kg-dry	100	11-Jan-2019 15:04
Surr: Decachlorobiphenyl	0	JS		54-143	%REC	100	11-Jan-2019 15:04
Surr: Decachlorobiphenyl	114			54-143	%REC	1	11-Jan-2019 14:16
Surr: Tetrachloro-m-xylene	97.4			50-140	%REC	1	11-Jan-2019 14:16
Surr: Tetrachloro-m-xylene	0	JS		50-140	%REC	100	11-Jan-2019 15:04
METALS BY SW6020A		Method:S	W6020		Prep SW3050A /	10-Jan-2019	Analyst: RPM
Arsenic	8.85		0.0885	0.632	mg/Kg-dry	1	11-Jan-2019 17:43
Cadmium	0.390	470	0.0341	0.632	mg/Kg-dry	1	11-Jan-2019 17:43
Cobalt	12.9	·	0.0190	0.632	mg/Kg-dry	1	11-Jan-2019 17:43
Iron	26,200		116	3160	mg/Kg-dry	50	11-Jan-2019 18:24
Lead	24.3		0.0164	0.632	mg/Kg-dry	1	11-Jan-2019 17:43
Manganese	1,830	S. C. S.	2.72	31.6	mg/Kg-dry	50	11-Jan-2019 18:24

Note: See Qualifiers Page for a list of qualifiers and their explanation.



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**ALS Houston, US** 

Date: 13-Jan-19

Client:

Weston Solutions, Inc.

DRA03-20190109-12-56

Project: Sample ID: FJ Doyle RA/TX

Collection Date:

09-Jan-2019 14:25

**ANALYTICAL REPORT** 

WorkOrder:HS19010410

Lab ID:HS19010410-02

Matrix:Soil

ANALYSES	RESULT QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
MOISTURE - ASTM D2216		STM D2216			A 17 17 17 17 17 17 17 17 17 17 17 17 17	Analyst: DFF
Percent Moisture	24.4	0.0100	0.0100	wt%	1	11-Jan-2019 08:25

Note: See Qualifiers Page for a list of qualifiers and their explanation.



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Client: Project: Weston Solutions, Inc.

FJ Doyle RA/TX

Sample ID:

DRA03-20190109-12-57

Collection Date:

09-Jan-2019 14:25

**ANALYTICAL REPORT** 

WorkOrder:HS19010410 Lab ID:HS19010410-03

Matrix:Soil

LOW-LEVEL PAHS         Method:SW8270           Acenaphthene         U         0.00065           Acenaphthylene         U         0.0013           Anthracene         U         0.00065           Benz(a)anthracene         U         0.0021           Benzo(a)pyrene         0.0017         JQ 0.0013           Benzo(b)fluoranthene         0.0031         JQ 0.0016           Benzo(k)fluoranthene         U         0.0012           Chrysene         0.0021         JQ 0.0010           Dibenz(a,h)anthracene         U         0.0021           Fluoranthene         U         0.0021           Fluoranthene         U         0.0021           Fluoranthene         U         0.0014           Indeno(1,2,3-cd)pyrene         0.0013         JQ 0.0010           Naphthalene         U         0.00078           Phenanthrene         U         0.00078           Pyrene         0.0031         JQ 0.00078           Surr: 2-Fluorobiphenyl         71.9         JQ 0.00078           Surr: 3-Fluorobiphenyl         74.8         JQ 0.00078           Aroclor 1016         U         0.0055           Aroclor 1221         U         0.0077	0.0043 0.0043 0.0043 0.0043 0.0043 0.0043 0.0043 0.0043 0.0043 0.0043 0.0043 0.0043	Prep: SW3541 / 1 mg/Kg-dry	1 1 1 1 1 1 1 1 1 1 1 1 1	Analyst: GEY 11-Jan-2019 15:32
Acenaphthylene  Anthracene  Benz(a)anthracene  Benz(a)pyrene  0.0017  Dibenz(a,h,i)perylene  0.0021  Benzo(b)fluoranthene  Dibenz(a,h)anthracene  U  0.0012  Chrysene  Dibenz(a,h)anthracene  U  0.0012  Chrysene  Dibenz(a,h)anthracene  U  0.0021  Fluoranthene  U  0.0012  Chrysene  Dibenz(a,h)anthracene  U  0.0014  Fluorene  U  0.0014  Indeno(1,2,3-cd)pyrene  0.0013  Dibenz(a,h)anthracene  U  0.0014  Indeno(1,2,3-cd)pyrene  0.0013  Dibenz(a,h)anthracene  U  0.0014  Indeno(1,2,3-cd)pyrene  0.0013  Dibenz(a,h)anthracene  U  0.00078  Pluoranthene  U  0.00078  Phenanthrene  U  0.0020  Pyrene  0.0031  Dibenz(a,h)anthracene  U  0.00078  Phenanthrene  U  0.00078  Phenanthrene  U  0.00078  Prene  0.0031  Dibenz(a,h)anthracene  U  0.00078  Phenanthrene  U  0.00078  Prene  0.0031  Dibenz(a,h)anthracene  U  0.00078  Phenanthrene  U  0.00078  Prene  0.0031  Dibenz(a,h)anthracene  U  0.00078  Prene  0.00078  Prene  0.00078  Prene  0.00078  Prene  0.00079  Prene  0.00077  Aroclor 1242  U  0.00077  Aroclor 1248  U  0.00077  Aroclor 1254	0.0043 0.0043 0.0043 0.0043 0.0043 0.0043 0.0043 0.0043 0.0043	mg/Kg-dry mg/Kg-dry mg/Kg-dry mg/Kg-dry mg/Kg-dry mg/Kg-dry mg/Kg-dry mg/Kg-dry mg/Kg-dry	1 1 1 1 1 1 1 1 1 1	11-Jan-2019 15:32 11-Jan-2019 15:32 11-Jan-2019 15:32 11-Jan-2019 15:32 11-Jan-2019 15:32 11-Jan-2019 15:32 11-Jan-2019 15:32
Anthracene U 0.00065 Benz(a)anthracene U 0.0021 Benzo(a)pyrene 0.0017	0.0043 0.0043 0.0043 0.0043 0.0043 0.0043 0.0043 0.0043	mg/Kg-dry mg/Kg-dry mg/Kg-dry mg/Kg-dry mg/Kg-dry mg/Kg-dry mg/Kg-dry mg/Kg-dry	1 1 1 1 1	11-Jan-2019 15:32 11-Jan-2019 15:32 11-Jan-2019 15:32 11-Jan-2019 15:32 11-Jan-2019 15:32 11-Jan-2019 15:32
Benzo(a)anthracene  Benzo(a)pyrene  Benzo(b)fluoranthene  Benzo(g,h,i)perylene  Benzo(k)fluoranthene  Benzo(k)fluoranthene  Benzo(k)fluoranthene  Benzo(k)fluoranthene  U  0.0012  Chrysene  0.0021  □ 0.0010  Dibenz(a,h)anthracene  U  0.0021  Fluoranthene  U  0.0021  Fluoranthene  U  0.0014  Indeno(1,2,3-cd)pyrene  0.0013  □ 0.0010  Naphthalene  U  0.0020  Pyrene  0.0031  □ 0.00078  Phenanthrene  U  0.0020  Pyrene  0.0031  □ 0.00078  Surr: 2-Fluorobiphenyl  71.9  Surr: 4-Terphenyl-d14  74.8  Surr: Nitrobenzene-d5  69.4  PCBS BY SW8082A  Method: SW8082  Aroclor 1016  U  0.0055  Aroclor 1221  U  0.0077  Aroclor 1248  U  0.0077  Aroclor 1254	0.0043 0.0043 0.0043 0.0043 0.0043 0.0043 0.0043 0.0043	mg/Kg-dry mg/Kg-dry mg/Kg-dry mg/Kg-dry mg/Kg-dry mg/Kg-dry mg/Kg-dry	1 1 1 1	11-Jan-2019 15:32 11-Jan-2019 15:32 11-Jan-2019 15:32 11-Jan-2019 15:32 11-Jan-2019 15:32
Benzo(a)pyrene 0.0017	0.0043 0.0043 0.0043 0.0043 0.0043 0.0043 0.0043	mg/Kg-dry mg/Kg-dry mg/Kg-dry mg/Kg-dry mg/Kg-dry mg/Kg-dry	1 1 1 1	11-Jan-2019 15:32 11-Jan-2019 15:32 11-Jan-2019 15:32 11-Jan-2019 15:32 11-Jan-2019 15:32
Benzo(b)fluoranthene Benzo(g,h,i)perylene  0.0020  0.00091  Benzo(k)fluoranthene  U  0.0012  Chrysene  0.0021  0.0010  Dibenz(a,h)anthracene  U  0.0029  0.0014  Fluoranthene  U  0.0014  Indeno(1,2,3-cd)pyrene  0.0013  0.0010  Naphthalene  U  0.0020  Pyrene  0.0031  0.00078  Phenanthrene  U  0.0020  Pyrene  0.0031  71.9  Surr: 2-Fluorobiphenyl  71.9  Surr: 4-Terphenyl-d14  74.8  Surr: Nitrobenzene-d5  69.4  PCBS BY SW8082A  Aroclor 1016  U  0.0055  Aroclor 1221  U  0.0077  Aroclor 1242  U  0.0077  Aroclor 1248  U  0.0061	0.0043 0.0043 0.0043 0.0043 0.0043 0.0043	mg/Kg-dry mg/Kg-dry mg/Kg-dry mg/Kg-dry mg/Kg-dry mg/Kg-dry	1 1 1	11-Jan-2019 15:32 11-Jan-2019 15:32 11-Jan-2019 15:32 11-Jan-2019 15:32
Benzo(g,h,i)perylene         0.0020         → 0.00091           Benzo(k)fluoranthene         U         0.0012           Chrysene         0.0021         → 0.0010           Dibenz(a,h)anthracene         U         0.0021           Fluoranthene         0.0029         → 0.0014           Fluorene         U         0.0014           Indeno(1,2,3-cd)pyrene         0.0013         → 0.0010           Naphthalene         U         0.0020           Pyrene         0.0031         → 0.0020           Pyrene         0.0031         → 0.00078           Surr: 2-Fluorobiphenyl         71.9           Surr: 4-Terphenyl-d14         74.8           Surr: Nitrobenzene-d5         69.4           PCBS BY SW8082A         Method:SW8082           Aroclor 1016         U         0.0055           Aroclor 1221         U         0.0073           Aroclor 1232         U         0.0059           Aroclor 1242         U         0.0077           Aroclor 1248         U         0.0077           Aroclor 1254         U         0.0061	0.0043 0.0043 0.0043 0.0043 0.0043	mg/Kg-dry mg/Kg-dry mg/Kg-dry mg/Kg-dry mg/Kg-dry	1 1 1	11-Jan-2019 15:32 11-Jan-2019 15:32 11-Jan-2019 15:32
Benzo(k)fluoranthene U 0.0012 Chrysene 0.0021	0.0043 0.0043 0.0043 0.0043	mg/Kg-dry <b>mg/Kg-dry</b> mg/Kg-dry <b>mg/Kg-dry</b>	1	11-Jan-2019 15:32 11-Jan-2019 15:32
Chrysene       0.0021       John 0.0010         Dibenz(a,h)anthracene       U       0.0021         Fluoranthene       0.0029       John 0.0014         Fluorene       U       0.0014         Indeno(1,2,3-cd)pyrene       0.0013       John 0.0010         Naphthalene       U       0.0020         Phenanthrene       U       0.0020         Pyrene       0.0031       John 0.00078         Surr: 2-Fluorobiphenyl       71.9         Surr: 4-Terphenyl-d14       74.8         Surr: Nitrobenzene-d5       69.4         PCBS BY SW8082A       Method:SW8082         Aroclor 1016       U       0.0055         Aroclor 1221       U       0.0073         Aroclor 1232       U       0.0059         Aroclor 1242       U       0.0077         Aroclor 1248       U       0.0077         Aroclor 1254       U       0.0061	0.0043 0.0043 0.0043 0.0043	mg/Kg-dry mg/Kg-dry mg/Kg-dry	1	11-Jan-2019 15:32
Dibenz(a,h)anthracene         U         0.0021           Fluoranthene         0.0029         √ ○ 0.0014           Fluorene         U         0.0014           Indeno(1,2,3-cd)pyrene         0.0013         √ ○ 0.0010           Naphthalene         U         0.0020           Phenanthrene         U         0.0020           Pyrene         0.0031         √ ○ 0.00078           Surr: 2-Fluorobiphenyl         71.9           Surr: 4-Terphenyl-d14         74.8           Surr: Nitrobenzene-d5         69.4           PCBS BY SW8082A         Method:SW8082           Aroclor 1016         U         0.0055           Aroclor 1221         U         0.0073           Aroclor 1232         U         0.0059           Aroclor 1242         U         0.0077           Aroclor 1248         U         0.0077           Aroclor 1254         U         0.0061	0.0043 <b>0.0043</b> 0.0043	mg/Kg-dry <b>mg/Kg-dry</b>		***************************************
Dibenz(a,h)anthracene         U         0.0021           Fluoranthene         0.0029         0.0014           Fluorene         U         0.0014           Indeno(1,2,3-cd)pyrene         0.0013         0.0010           Naphthalene         U         0.0020           Phenanthrene         U         0.0020           Pyrene         0.0031         0.00078           Surr: 2-Fluorobiphenyl         71.9           Surr: 4-Terphenyl-d14         74.8           Surr: Nitrobenzene-d5         69.4           PCBS BY SW8082A         Method:SW8082           Aroclor 1016         U         0.0055           Aroclor 1221         U         0.0073           Aroclor 1232         U         0.0059           Aroclor 1242         U         0.0077           Aroclor 1248         U         0.0077           Aroclor 1254         U         0.0061	<b>0.0043</b> 0.0043	mg/Kg-dry	1	
Fluorene U 0.0014 Indeno(1,2,3-cd)pyrene 0.0013 → 0.0010 Naphthalene U 0.0020 Phenanthrene U 0.0020 Pyrene 0.0031 → 0.00078 Surr: 2-Fluorobiphenyl 71.9 Surr: 4-Terphenyl-d14 74.8 Surr: Nitrobenzene-d5 69.4  PCBS BY SW8082A Method: SW8082 Aroclor 1016 U 0.0055 Aroclor 1221 U 0.0073 Aroclor 1232 U 0.0059 Aroclor 1242 U 0.0077 Aroclor 1248 U 0.0077 Aroclor 1254 U 0.0061	0.0043			11-Jan-2019 15:32
Fluorene         U         0.0014           Indeno(1,2,3-cd)pyrene         0.0013         → □ 0.0010           Naphthalene         U         0.00078           Phenanthrene         U         0.0020           Pyrene         0.0031         → □ 0.00078           Surr: 2-Fluorobiphenyl         71.9           Surr: 4-Terphenyl-d14         74.8           Surr: Nitrobenzene-d5         69.4           PCBS BY SW8082A         Method:SW8082           Aroclor 1016         U         0.0055           Aroclor 1221         U         0.0073           Aroclor 1232         U         0.0059           Aroclor 1242         U         0.0077           Aroclor 1248         U         0.0077           Aroclor 1254         U         0.0061		ma/Ka-dry	1	11-Jan-2019 15:32
Naphthalene         U         0.00078           Phenanthrene         U         0.0020           Pyrene         0.0031         J ∑ 0.00078           Surr: 2-Fluorobiphenyl         71.9           Surr: 4-Terphenyl-d14         74.8           Surr: Nitrobenzene-d5         69.4           PCBS BY SW8082A         Method:SW8082           Aroclor 1016         U         0.0055           Aroclor 1221         U         0.0073           Aroclor 1232         U         0.0059           Aroclor 1242         U         0.0077           Aroclor 1248         U         0.0077           Aroclor 1254         U         0.0061	0.0043	ig/ig ully	1	11-Jan-2019 15:32
Phenanthrene         U         0.0020           Pyrene         0.0031         J 0.00078           Surr: 2-Fluorobiphenyl         71.9           Surr: 4-Terphenyl-d14         74.8           Surr: Nitrobenzene-d5         69.4           PCBS BY SW8082A         Method:SW8082           Aroclor 1016         U         0.0055           Aroclor 1221         U         0.0073           Aroclor 1232         U         0.0059           Aroclor 1242         U         0.0077           Aroclor 1248         U         0.0077           Aroclor 1254         U         0.0061		mg/Kg-dry	1	11-Jan-2019 15:32
Pyrene         0.0031         J 0.00078           Surr: 2-Fluorobiphenyl         71.9           Surr: 4-Terphenyl-d14         74.8           Surr: Nitrobenzene-d5         69.4           PCBS BY SW8082A         Method:SW8082           Aroclor 1016         U 0.0055           Aroclor 1221         U 0.0073           Aroclor 1232         U 0.0059           Aroclor 1242         U 0.0077           Aroclor 1248         U 0.0077           Aroclor 1254         U 0.0061	0.0043	mg/Kg-dry	1	11-Jan-2019 15:32
Surr: 2-Fluorobiphenyl       71.9         Surr: 4-Terphenyl-d14       74.8         Surr: Nitrobenzene-d5       69.4         PCBS BY SW8082A       Method: SW8082         Aroclor 1016       U 0.0055         Aroclor 1221       U 0.0073         Aroclor 1232       U 0.0059         Aroclor 1242       U 0.0077         Aroclor 1248       U 0.0077         Aroclor 1254       U 0.0061	0.0043	mg/Kg-dry	1	11-Jan-2019 15:32
Surr: 4-Terphenyl-d14       74.8         Surr: Nitrobenzene-d5       69.4         PCBS BY SW8082A       Method: SW8082         Aroclor 1016       U       0.0055         Aroclor 1221       U       0.0073         Aroclor 1232       U       0.0059         Aroclor 1242       U       0.0077         Aroclor 1248       U       0.0077         Aroclor 1254       U       0.0061	0.0043	mg/Kg-dry	1	11 <b>-J</b> an-2019 15:32
Surr: Nitrobenzene-d5     69.4       PCBS BY SW8082A     Method: SW8082       Aroclor 1016     U 0.0055       Aroclor 1221     U 0.0073       Aroclor 1232     U 0.0059       Aroclor 1242     U 0.0077       Aroclor 1248     U 0.0077       Aroclor 1254     U 0.0061	43-125	%REC	1	11-Jan-2019 15:32
PCBS BY SW8082A         Method:SW8082           Aroclor 1016         U 0.0055           Aroclor 1221         U 0.0073           Aroclor 1232         U 0.0059           Aroclor 1242         U 0.0077           Aroclor 1248         U 0.0077           Aroclor 1254         U 0.0061	32-125	%REC	1	11-Jan-2019 15:32
Aroclor 1016       U       0.0055         Aroclor 1221       U       0.0073         Aroclor 1232       U       0.0059         Aroclor 1242       U       0.0077         Aroclor 1248       U       0.0077         Aroclor 1254       U       0.0061	37-125	%REC	1	11-Jan-2019 15:32
Aroclor 1221 U 0.0073 Aroclor 1232 U 0.0059 Aroclor 1242 U 0.0077 Aroclor 1248 U 0.0077 Aroclor 1254 U 0.0061		Prep:SW3541/36	65A / 10-Jan-	2019 Analyst: JLJ
Aroclor 1232 U 0.0059  Aroclor 1242 U 0.0077  Aroclor 1248 U 0.0077  Aroclor 1254 U 0.0061	0.022	mg/Kg-dry	1	11-Jan-2019 14:32
Aroclor 1242 U 0.0077 Aroclor 1248 U 0.0077 Aroclor 1254 U 0.0061	0.022	mg/Kg-dry	1	11-Jan-2019 14:32
Aroclor 1248 U 0.0077 Aroclor 1254 U 0.0061	0.022	mg/Kg-dry	1	11-Jan-2019 14:32
Aroclor 1254 U 0.0061	0.022	mg/Kg-dry	1	11-Jan-2019 14:32
	0.022	mg/Kg-dry	1	11-Jan-2019 14:32
8.5 TV 9.00	0.022	mg/Kg-dry	1	11-Jan-2019 14:32
Aroclor 1260 8.6 JK 0.26	1.1	mg/Kg-dry	50	11-Jan-2019 15:19
Surr: Decachlorobiphenyl 0 JS	54-143	%REC	50	11-Jan-2019 15:19
Surr: Decachlorobiphenyl 105	54-143	%REC	1	11-Jan-2019 14:32
Surr: Tetrachloro-m-xylene 93.9	50-140	%REC	1	11-Jan-2019 14:32
Surr: Tetrachloro-m-xylene 0 JS	50-140	%REC	50	11-Jan-2019 15:19
METALS BY SW6020A Method:SW6020		Prep.SW3050A /	10-Jan-2019	Analyst: RPM
Arsenic 8.39 0.0875	0.625	mg/Kg-dry	1	11-Jan-2019 18:18
Cadmium 0.407 சூர 0.0338	0.625	mg/Kg-dry	1	11-Jan-2019 18:18
Cobalt 15.0 0.0188	0.625	mg/Kg-dry	1	11-Jan-2019 18:18
Iron 26,600 114	3130	mg/Kg-dry	50	11-Jan-2019 18:27
Lead 22.1 0.0163	0.625	mg/Kg-dry	1	11-Jan-2019 18:18
Manganese 2,150 2.69	31.3	mg/Kg-dry	50	11-Jan-2019 18:27

Note: See Qualifiers Page for a list of qualifiers and their explanation.



8 style

7 of 25

**ALS Houston, US** 

Date: 13-Jan-19

Client:

Weston Solutions, Inc.

Project:

FJ Doyle RA/TX

Sample ID:

DRA03-20190109-12-57

Collection Date:

09-Jan-2019 14:25

**ANALYTICAL REPORT** 

WorkOrder:HS19010410

Lab ID:HS19010410-03

Matrix:Soil

ANALYSES	RESULT QUAL	MDL	REPORT LIMIT	UNITS	DILUTION	DATE ANALYZED
MOISTURE - ASTM D2216 Percent Moisture	Method:AS 23.4	TM D2216 0.0100	0.0100	wt%	1	Analyst: DFF 11-Jan-2019 08:25

Note: See Qualifiers Page for a list of qualifiers and their explanation.





# DATA QUALITY ASSURANCE REVIEW

SITE NAME Frank J. Doy	le Salvage Removal Actio	n	
WORK ORDER NUMBER	20600.012.001.1175.01	TDD NUMBER	0001/18-175
PROJECT NUMBER		SDG NUMBER	HS19010458
Weston Solutions, Inc. (WES 20600.012.001.1175.01; SDG No. analyzed for Polychlorinated Biphebelow.	HS19010458; Frank J. I	Ooyle Salvage Rem	
	SAMPLE NUM	BERS	
FJD05-01-20190110-06-56			
	-		
	-		
	_		
	<u> </u>		
		. 1 (0.0)	
This data package was validated to USEPA National Functional Guidelines of National Functional Guidelines of Laboratory Program National Functional Functional Functional Functional Functional Functional Functional Protocol for Holdin qualifications are listed in the follows:	elines for Organic Superfu for Inorganic Superfund Inctional Guidelines for H Quality Control Guidance Ig Times, Blanks, and Vo	nd Methods Data R Data Review (Janu ligh Resolution Sup for Removal Activi	Review (January, 2017), USEPA uary, 2017), USEPA Contract perfund Methods Data Reviev ities (September, 2011), and/o
DEVIEWED Gloria I Swit	talski	DATE	February 5, 2010

## **Data Qualifiers**

Data Qualifier Definitions were supplied by the Office of Solid Waste and Emergency Response (September 1989) and are included in the Functional Guidelines. Data qualifiers may be combined (UJ, QJ) with the corresponding combination of meanings. Additional qualifiers may be added to provide additional, more specific information (JL, UB, QJK), modifying the meaning of the primary qualifier. Additional qualifiers utilized by WESTON are H, L, K, B, and Q.

U - The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation or detection limit, which has been adjusted for sample weight/sample volume, extraction volume, percent solids, sample dilution or other analysis specific parameters.

An additional qualifier, "B", may be appended to indicate that while the analyte was detected in the sample, the presence of the analyte may be attributable to blank contamination and the analyte is therefore considered undetected with the sample detection or quantitation limit for the analyte being elevated.

J - The analyte was analyzed for, but the associated numerical value may not be consistent with the amount actually present in the environmental sample or may not be consistent with the sample detection or quantitation limit. The value is an estimated quantity. The data should be seriously considered for decision-making and are usable for many purposes.

An additional qualifier will be appended to the "J" qualifier that indicates the bias in the reported results:

- L Low bias
- H High bias
- K Unknown bias
- Q The reported concentration is less than the sample quantitation limit for the specific analyte in the sample.

The L and H qualifier will only be employed when a single qualification is required. When more than one quality control parameter affects the analytical result and a conflict results in assigning a bias, the result will be flagged JK.

- R Quality Control indicates that data are unusable for all purposes. The analyte was analyzed for, but the presence or absence of the analyte has not been verified. Resampling and reanalysis are necessary for verification to confirm or deny the presence of an analyte.
- N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

#### PCB FRACTION EVALUATION

# 1. Analytical Method:

Samples were prepared and analyzed for PCBs using the procedures specified in SW-846 Method 8082A.

#### 2. Holding Time:

The samples were received within the recommended ≤6°C NFG limit. All samples were extracted within the required holding time of less than 1 year after collection. Analysis of the samples was conducted within 40 days of extraction. No qualifications are placed on the data.

## 3. Initial Calibration:

The correlation coefficient of the multipoint initial calibration was greater than or equal to 0.995 or the percent relative standard deviation (%RSD) was less than or equal to 20%. No qualifications are placed on the data.

## 4. Continuing Calibration:

The continuing calibration check was analyzed at the required frequency and met recovery requirements of 75%-125% [percent difference (%D) was less than 25%]. No qualifications are placed on the data.

#### 5. Blanks:

#### A. Laboratory Blanks:

A method blank was prepared at the required frequency of every time samples were extracted for each matrix and concentration or every 20 samples whichever is greater. No target analytes were detected in the method blanks at concentrations that warrant blank action. No qualifications are placed on the data.

## B. Field Blanks:

No field blank samples were submitted with this analytical package. No qualifications are placed on the data.

## 6. Surrogates:

All recoveries of the surrogates were within the control limits provided. No qualifications are placed on the data.

# 7. Matrix Spikes/Matrix Spike Duplicates (MS/MSD):

Sample FJD05-01-20190110-06-56 underwent MS/MSD analysis for the solid matrix. Recoveries of all spiked analytes were within the control limits provided. No qualifications are placed on the data.

# 8. Duplicates:

# A. Laboratory Duplicate Analysis:

Sample FJD05-01-20190110-06-56 underwent MS/MSD analysis for the solid matrix. QC criteria are that the relative percent difference (RPD) values for the duplicate sample analysis are less than 20% for aqueous samples and less than 35% for solid samples. All QC criteria were met. No qualifications are placed on the data.

# B. Field Duplicate Analysis:

No field duplicate samples were submitted with this analytical package. No qualifications are placed on the data.

# 9. Laboratory Control Sample (LCS):

The laboratory analyzed an LCS and recoveries were within the control limits provided. No qualifications are placed on the data.

# 10. Target Compound Identification, Quantitation, and Reporting Limits:

The only sample was ND for all target compounds.

# 11. Laboratory Contact:

No laboratory contact was required.

## 12. Overall Assessment:

The analytical data is acceptable for use without qualification.

# DATA QUALITY ASSURANCE REVIEW

SITE NAME Frank J. Doy	le Salvage Removal Actio	n	
WORK ORDER NUMBER	20600.012.001.1175.01	TDD NUMBER	0001/18-175
PROJECT NUMBER		SDG NUMBER	HS19010458
Weston Solutions, Inc. (WES' 20600.012.001.1175.01; SDG No. analyzed for Polynuclear Aromatic below.	HS19010458; Frank J. I	Ooyle Salvage Rem	
	SAMPLE NUM	BERS	
FJD05-01-20190110-06-56			
			-
This data package was validated to USEPA National Functional Guidelines of Laboratory Program National Fu (April, 2016), Quality Assurance/Qualifications are listed in the follows	elines for Organic Superfu for Inorganic Superfund inctional Guidelines for H Quality Control Guidance g Times, Blanks, and Vo	nd Methods Data R Data Review (Janu ligh Resolution Sup for Removal Activi	Peview (January, 2017), USEPA Lary, 2017), USEPA Contractor perfund Methods Data Review Stities (September, 2011), and/o
PEVIEWER Gloria I Swit	taleki	DATE	February 5, 2010

## **Data Qualifiers**

Data Qualifier Definitions were supplied by the Office of Solid Waste and Emergency Response (September 1989) and are included in the Functional Guidelines. Data qualifiers may be combined (UJ, QJ) with the corresponding combination of meanings. Additional qualifiers may be added to provide additional, more specific information (JL, UB, QJK), modifying the meaning of the primary qualifier. Additional qualifiers utilized by WESTON are H, L, K, B, and Q.

U - The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation or detection limit, which has been adjusted for sample weight/sample volume, extraction volume, percent solids, sample dilution or other analysis specific parameters.

An additional qualifier, "B", may be appended to indicate that while the analyte was detected in the sample, the presence of the analyte may be attributable to blank contamination and the analyte is therefore considered undetected with the sample detection or quantitation limit for the analyte being elevated.

J - The analyte was analyzed for, but the associated numerical value may not be consistent with the amount actually present in the environmental sample or may not be consistent with the sample detection or quantitation limit. The value is an estimated quantity. The data should be seriously considered for decision-making and are usable for many purposes.

An additional qualifier will be appended to the "J" qualifier that indicates the bias in the reported results:

- L Low bias
- H High bias
- K Unknown bias
- Q The reported concentration is less than the sample quantitation limit for the specific analyte in the sample.

The L and H qualifier will only be employed when a single qualification is required. When more than one quality control parameter affects the analytical result and a conflict results in assigning a bias, the result will be flagged JK.

- R Quality Control indicates that data are unusable for all purposes. The analyte was analyzed for, but the presence or absence of the analyte has not been verified. Resampling and reanalysis are necessary for verification to confirm or deny the presence of an analyte.
- N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

#### PAH FRACTION EVALUATION

# 1. Analytical Method:

Samples were prepared and analyzed using the procedures specified in SW-846 Method 8270D selective ion monitoring (SIM).

# 2. Holding Time:

The samples were received within the recommended  $\leq$ 6°C NFG limit. All samples were extracted within the required holding time of less than 7 days for waters and less than 14 days for solids/wastes after collection. Analysis of the samples was conducted within 40 days of extraction. No qualifications are placed on the data.

# 3. Tuning/Performance:

DFTPP tuning of the mass spectrometer(s) was conducted at the required frequency and results were within the required criteria. No qualifications are placed on the data.

#### 4. Initial Calibration:

All individual relative response factors (RRFs) and average RRFs for the initial calibration (IC) were greater than the compound dependent (see Table 34 of National Functional Guidelines) control limits. All percent relative standard deviations (%RSDs) were less than the compound dependent (see Table 34 of National Functional Guidelines) control limits or the correlation coefficient was > 0.990. No qualifications are placed on the data.

## 5. Continuing Calibration:

All individual RRFs for the initial calibration verification (ICV) and continuing calibration (CC) standards were greater than the compound dependent (see Table 34 of National Functional Guidelines) control limits. All percent differences (%Ds) were less than the compound dependent (see Table 34 of National Functional Guidelines) control limits. No qualifications are placed on the data.

#### 6. Blanks:

## A. Laboratory Blanks:

A method blank was prepared at the required frequency of every time samples were extracted for each matrix and concentration or every 20 samples whichever is greater. Target analytes were not detected in the method at concentrations that warrant blank action. No qualifications are placed on the data.

#### B. Field Blanks:

No field blank samples were submitted with this analytical package. No qualifications are placed on the data.

## 7. System Monitoring Compounds (SMC):

All recoveries of the system monitoring compounds (surrogates) were within the control limits provided. No qualifications are placed on the data.

## 8. Duplicates:

# A. Laboratory Duplicate Analysis:

No sample from this analytical package underwent matrix spike/matrix spike duplicate (MS/MSD) analysis. No qualifications are placed on the data.

## B. Field Duplicate Analysis:

No field duplicate samples were submitted with this analytical package. No qualifications are placed on the data.

# 9. Matrix Spike/Matrix Spike Duplicate:

No sample from this analytical package underwent MS/MSD analysis. No qualifications are placed on the data.

#### 10. Internal Standards:

Areas of the six internal standards were within the control limits of a factor of 2 (-50% to +100%) and retention times were within 30 seconds from the associated 12 hour calibration standard. No qualifications are placed on the data.

## 11. Laboratory Control Sample (LCS):

The laboratory analyzed an LCS and recoveries were within the control limits provided. No qualifications are placed on the data.

# 12. Target Compound Identification:

All target compounds reported by the laboratory met identification criteria of relative retention times (RRT) within 0.06 RRT units of the 12 hour standard and that all ions present in the standard mass spectrum were present in the sample mass spectrum and the abundance of these ions agreed within  $\pm 20\%$  of the standard. No qualifications are placed on the data.

#### 13. Target Compound Quantitation and Reporting Limits:

Concentrations of all reported compounds were correctly calculated.

Reported concentrations less than the reporting limit (RL) qualified "J" by the laboratory are qualified "JQ" to indicate that the result is less than the RL but greater than the method detection limit (MDL).

# 14. Laboratory Contact:

No laboratory contact was required.

#### 15. Overall Assessment

Reported concentrations less than the RL qualified "J" by the laboratory were qualified "JQ" to indicate that the result is less than the RL but greater than the MDL.

The analytical data is acceptable for use with the qualifications listed above.

# DATA QUALITY ASSURANCE REVIEW

WORK ORDER NUMBER	20600.012.001.1175.01	TDD NUMBER	0001/18-175
PROJECT NUMBER	20000.012.001.1173.01	SDG NUMBER	HS19010458
Weston Solutions, Inc. (WES 20600.012.001.1175.01; SDG No. analyzed for metals (As, Cd, Co, F	. HS19010458; Frank J. 1	a QA review Doyle Salvage Rem	for Work Order Number
	SAMPLE NUM	BERS	
FJD05-01-20190110-06-56			
	<u> </u>		
This data package was validated to USEPA National Functional Guidelines of Laboratory Program National Fur (April, 2016), Quality Assurance/of the Regional Protocol for Holding qualifications are listed in the follows:	elines for Organic Superfi for Inorganic Superfund anctional Guidelines for I Quality Control Guidance ag Times, Blanks, and V	and Methods Data R Data Review (Janu High Resolution Sup for Removal Activi	eview (January, 2017), USEPA nary, 2017), USEPA Contractor perfund Methods Data Review ties (September, 2011), and/c
REVIEWER Gloria I Swi	talski	DATE	February 5 2019

# **Data Qualifiers**

Data Qualifier Definitions were supplied by the Office of Solid Waste and Emergency Response (September 1989) and are included in the Functional Guidelines. Data qualifiers may be combined (UJ, QJ) with the corresponding combination of meanings. Additional qualifiers may be added to provide additional, more specific information (JL, UB, QJK), modifying the meaning of the primary qualifier. Additional qualifiers utilized by WESTON are H, L, K, B, and Q.

U - The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation or detection limit, which has been adjusted for sample weight/sample volume, extraction volume, percent solids, sample dilution or other analysis specific parameters.

An additional qualifier, "B", may be appended to indicate that while the analyte was detected in the sample, the presence of the analyte may be attributable to blank contamination and the analyte is therefore considered undetected with the sample detection or quantitation limit for the analyte being elevated.

J - The analyte was analyzed for, but the associated numerical value may not be consistent with the amount actually present in the environmental sample or may not be consistent with the sample detection or quantitation limit. The value is an estimated quantity. The data should be seriously considered for decision-making and are usable for many purposes.

An additional qualifier will be appended to the "J" qualifier that indicates the bias in the reported results:

- L Low bias
- H High bias
- K Unknown bias
- Q The reported concentration is less than the sample quantitation limit for the specific analyte in the sample.

The L and H qualifier will only be employed when a single qualification is required. When more than one quality control parameter affects the analytical result and a conflict results in assigning a bias, the result will be flagged JK.

- R Quality Control indicates that data are unusable for all purposes. The analyte was analyzed for, but the presence or absence of the analyte has not been verified. Resampling and reanalysis are necessary for verification to confirm or deny the presence of an analyte.
- N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

#### METALS DATA EVALUATION

## 1. Analytical Method:

Samples were prepared and analyzed for ICP metals using the procedures specified in SW-846 Method 6020A.

# 2. Holding Times:

All samples met established holding time criteria of 180 days for ICP metals. No qualifications are placed on the data.

#### 3. Initial Calibration:

ICP initial calibration included a blank and five standards and initial calibration verification results fell within the control limits of 90% to 110% of the true values. No qualifications are placed on the data.

# 4. Continuing Calibration:

All ICP results fell within the control limits of 90% to 110% of the true values. No qualifications are placed on the data.

#### 5. CRDL Standard:

All results for the CRDL standard were within the control limits of 70% to 130% of the true values or the sample results were greater than the CRDL action level. No qualifications are placed on the data.

### 6. Blanks:

#### A. Laboratory Blanks:

A method blank was prepared at the required frequency of every time samples were prepared/digested for each matrix or every 20 samples whichever is greater. Target analytes were not detected in the method and calibration blanks at concentrations that warrant blank action. No qualifications are placed on the data.

#### B. Field Blanks:

No field blank samples were submitted with this analytical package. No qualifications are placed on the data.

### 7. ICP Interference Check:

All results for the interference check sample were within the control limits of 80% to 120% of the true values. No qualifications are placed on the data.

#### 8. Laboratory Control Sample (LCS):

The recoveries for the LCS were within the control limits provided. No qualifications are placed on the data.

# 9. Duplicate Sample Analysis:

# A. Laboratory Duplicate Analysis:

No sample from this analytical package underwent matrix spike/matrix spike duplicate (MS/MSD) analysis for ICP metals for the solid matrix. No qualifications are placed on the data.

# B. Field Duplicate Analysis:

No field duplicate samples were submitted with this analytical package. No qualifications are placed on the data.

# 10. Spiked Sample Analysis:

No sample from this analytical package underwent MS/MSD analysis for ICP metals for the solid matrix. No qualifications are placed on the data.

## 11. ICP Serial Dilution:

No sample from this analytical package underwent serial dilution for the solid matrix for ICP metals. No qualifications are placed on the data.

# 12. Sample Quantitation and Reporting Limits:

Concentrations of all reported analytes were correctly calculated.

Reported concentrations less than the reporting limit (RL) qualified "J" by the laboratory are qualified "JQ" to indicate that the result is less than the RL but greater than the method detection limit (MDL).

Manganese in the only sample was analyzed at a 100-fold dilution. The reporting limit for manganese in this sample was elevated as a result of the dilution performed.

## 13. Laboratory Contact

No laboratory contact was required.

#### 14. Overall Assessment:

Reported concentrations less than the RL qualified "J" by the laboratory were qualified "JQ" to indicate that the result is less than the RL but greater than the MDL.

The analytical data is acceptable for use with the qualifications listed above.

Client: Project: Weston Solutions, Inc.

FJ Doyle RA/TX

Sample ID: Collection Date:

FJD05-01-20190110-06-56

10-Jan-2019 12:03

**ANALYTICAL REPORT** 

WorkOrder:HS19010458 Lab ID:HS19010458-01

Matrix:Soil

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL PAHS		Method:S	W8270	Maria de la Companya	Prep SW3541 / 1	1-Jan-2019	Analyst: ACN
Acenaphthene	U		0.00063	0.0041	mg/Kg-dry	1	12-Jan-2019 00:12
Acenaphthylene	0.0027	430	0.0013	0.0041	mg/Kg-dry	1	12-Jan-2019 00:12
Anthracene	0.0023	JOD	0.00063	0.0041	mg/Kg-dry	1	12-Jan-2019 00:12
Benz(a)anthracene	0.011	~	0.0020	0.0041	mg/Kg-dry	1	12-Jan-2019 00:12
Benzo(a)pyrene	0.013		0.0013	0.0041	mg/Kg-dry	1	12-Jan-2019 00:12
Benzo(b)fluoranthene	0.024		0.0015	0.0041	mg/Kg-dry	1	12-Jan-2019 00:12
Benzo(g,h,i)perylene	0.013		0.00088	0.0041	mg/Kg-dry	1	12-Jan-2019 00:12
Benzo(k)fluoranthene	0.011		0.0011	0.0041	mg/Kg-dry	1	12-Jan-2019 00:12
Chrysene	0.015		0.0010	0.0041	mg/Kg-dry	1	12-Jan-2019 00:12
Dibenz(a,h)anthracene	0.0041	430	0.0020	0.0041	mg/Kg-dry	1	12-Jan-2019 00:12
Fluoranthene	0.015		0.0014	0.0041	mg/Kg-dry	1	12-Jan-2019 00:12
Fluorene	U		0.0014	0.0041	mg/Kg-dry	1	12-Jan-2019 00:12
Indeno(1,2,3-cd)pyrene	0.016		0.0010	0.0041	mg/Kg-dry	1	12-Jan-2019 00:12
Naphthalene	U	entere en a servica entre Anna en en entre sentente tradescribente del como del	0.00075	0.0041	mg/Kg-dry	1	12-Jan-2019 00:12
Phenanthrene	0.0083		0.0019	0.0041	mg/Kg-dry	1	12-Jan-2019 00:12
Pyrene	0.018		0.00075	0.0041	mg/Kg-dry	1	12-Jan-2019 00:12
Surr: 2-Fluorobiphenyl	46.7			43-125	%REC	1	12-Jan-2019 00:12
Surr: 4-Terphenyl-d14	76.3	. 200 <b>8 19 34 3</b> 200 000 000 000 0000000000000		32-125	%REC	1	12-Jan-2019 00:12
Surr: Nitrobenzene-d5	41.0			37-125	%REC	1	12-Jan-2019 00:12
PCBS BY SW8082A	The Papacka South	Method:S	W8082		Prep:SW3541/36	65A / 11-Jan-	2019 Analyst: JLJ
Aroclor 1016	U		0.0053	0.021	mg/Kg-dry	1	11-Jan-2019 19:18
Aroclor 1221	U		0.0071	0.021	mg/Kg-dry	1	11-Jan-2019 19:18
Aroclor 1232	U		0.0057	0.021	mg/Kg-dry	1	11-Jan-2019 19:18
Aroclor 1242	U		0.0074	0.021	mg/Kg-dry	1	11-Jan-2019 19:18
Aroclor 1248	U		0.0074	0.021	mg/Kg-dry	1	11-Jan-2019 19:18
Aroclor 1254	U		0.0059	0.021	mg/Kg-dry	1	11-Jan-2019 19:18
Aroclor 1260	U		0.0050	0.021	mg/Kg-dry	1	11-Jan-2019 19:18
Surr: Decachlorobiphenyl	81.4			54-143	%REC	1	11-Jan-2019 19:18
Surr: Tetrachloro-m-xylene	72.8			50-140	%REC	1	11-Jan-2019 19:18
METALS BY SW6020A		Method:S	W6020		Prep:SW3050A /	11-Jan-2019	Analyst: JCJ
Arsenic	65.8	000-10-10-10-10-20-20-20-20-20-20-20-20-20-20-20-20-20	0.0813	0.581	mg/Kg-dry	1	14-Jan-2019 13:32
Cadmium	0.369	1 TO	0.0314	0.581	mg/Kg-dry	1	14-Jan-2019 13:32
Cobalt	6.49	7	0.0174	0.581	mg/Kg-dry	1	14-Jan-2019 13:32
Iron	11,200	***************************************	2,13	58.1	mg/Kg-dry	1	14-Jan-2019 13:32
Lead	27.8		0.0151	0.581	mg/Kg-dry	1	14-Jan-2019 13:32
Manganese	1,110		4.99	58.1	mg/Kg-dry	100	14-Jan-2019 14:11
MOISTURE - ASTM D2216	N	lethod:AS7	M D2216				Analyst: DFF
Percent Moisture	20.9		0.0100	0.0100	wt%	1	11-Jan-2019 09:31

Note: See Qualifiers Page for a list of qualifiers and their explanation.



19/14 B

Page 4 of 22

# DATA QUALITY ASSURANCE REVIEW

SITE NAME Frank J. Doy	le Salvage Removal Actio	n	
WORK ORDER NUMBER	20600.012.001.1175.01	TDD NUMBER	0001/18-175
PROJECT NUMBER		SDG NUMBER	HS19010607
Weston Solutions, Inc. (WES 20600.012.001.1175.01; SDG No. analyzed for Polychlorinated Biph below.	HS19010607; Frank J. Do	yle Salvage Remov	
	SAMPLE NUM	BERS	
DRA022-20190114-12-56	EAS08-20190114-46-5	6 FJD	04-08-20190114-46-56
	<u> </u>		
This data package was validated to USEPA National Functional Guide National Functional Guidelines J Laboratory Program National Fu	elines for Organic Superfu for Inorganic Superfund inctional Guidelines for F	nd Methods Data R Data Review (Janu Iigh Resolution Sup	Peview (January, 2017), USEP Lary, 2017), USEPA Contrac Derfund Methods Data Review
(April, 2016), <i>Quality Assurance</i> /ethe Regional Protocol for Holdin qualifications are listed in the following	g Times, Blanks, and V		
PEVIEWER Gloria I Swi	taleki	DATE	February 8, 2010

## **Data Qualifiers**

Data Qualifier Definitions were supplied by the Office of Solid Waste and Emergency Response (September 1989) and are included in the Functional Guidelines. Data qualifiers may be combined (UJ, QJ) with the corresponding combination of meanings. Additional qualifiers may be added to provide additional, more specific information (JL, UB, QJK), modifying the meaning of the primary qualifier. Additional qualifiers utilized by WESTON are H, L, K, B, and Q.

U - The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation or detection limit, which has been adjusted for sample weight/sample volume, extraction volume, percent solids, sample dilution or other analysis specific parameters.

An additional qualifier, "B", may be appended to indicate that while the analyte was detected in the sample, the presence of the analyte may be attributable to blank contamination and the analyte is therefore considered undetected with the sample detection or quantitation limit for the analyte being elevated.

J - The analyte was analyzed for, but the associated numerical value may not be consistent with the amount actually present in the environmental sample or may not be consistent with the sample detection or quantitation limit. The value is an estimated quantity. The data should be seriously considered for decision-making and are usable for many purposes.

An additional qualifier will be appended to the "J" qualifier that indicates the bias in the reported results:

- L Low bias
- H High bias
- K Unknown bias
- Q The reported concentration is less than the sample quantitation limit for the specific analyte in the sample.

The L and H qualifier will only be employed when a single qualification is required. When more than one quality control parameter affects the analytical result and a conflict results in assigning a bias, the result will be flagged JK.

- R Quality Control indicates that data are unusable for all purposes. The analyte was analyzed for, but the presence or absence of the analyte has not been verified. Resampling and reanalysis are necessary for verification to confirm or deny the presence of an analyte.
- N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

#### PCB FRACTION EVALUATION

# 1. Analytical Method:

Samples were prepared and analyzed for PCBs using the procedures specified in SW-846 Method 8082A.

#### 2. Holding Time:

The samples were received within the recommended  $\leq$ 6°C NFG limit. All samples were extracted within the required holding time of less than 1 year after collection. Analysis of the samples was conducted within 40 days of extraction. No qualifications are placed on the data.

## 3. Initial Calibration:

The correlation coefficient of the multipoint initial calibration was greater than or equal to 0.995 or the percent relative standard deviation (%RSD) was less than or equal to 20%. No qualifications are placed on the data.

## 4. Continuing Calibration:

The continuing calibration check was analyzed at the required frequency and met recovery requirements of 75%-125% [percent difference (%D) was less than 25%]. No qualifications are placed on the data.

#### 5. Blanks:

#### A. Laboratory Blanks:

A method blank was prepared at the required frequency of every time samples were extracted for each matrix and concentration or every 20 samples whichever is greater. No target analytes were detected in the method blanks at concentrations that warrant blank action. No qualifications are placed on the data.

## B. Field Blanks:

No field blank samples were submitted with this analytical package. No qualifications are placed on the data.

#### 6. Surrogates:

All recoveries of the surrogates were within the control limits provided or were diluted out. No qualifications are placed on the data.

# 7. Matrix Spikes/Matrix Spike Duplicates (MS/MSD):

Sample FJD04-08-20190114-46-56 underwent MS/MSD analysis for the solid matrix. Recoveries of all spiked analytes were within the control limits provided for analytes whose sample concentration did not exceed the spike concentration by a factor of four times or more. No qualifications are placed on the data.

# 8. Duplicates:

# A. Laboratory Duplicate Analysis:

Sample FJD04-08-20190114-46-56 underwent MS/MSD analysis for the solid matrix. QC criteria are that the relative percent difference (RPD) values for the duplicate sample analysis are less than 20% for aqueous samples and less than 35% for solid samples. All QC criteria were met. No qualifications are placed on the data.

## B. Field Duplicate Analysis:

No field duplicate samples were submitted with this analytical package. No qualifications are placed on the data.

### 9. Laboratory Control Sample (LCS):

The laboratory analyzed an LCS and recoveries were within the control limits provided. No qualifications are placed on the data.

# 10. Target Compound Identification, Quantitation, and Reporting Limits:

Concentrations of all reported compounds were correctly calculated.

The %D between the column results were within the acceptance limits (≤25). No qualifications are placed on the data.

Some PCB samples were analyzed at a dilution for some compounds. Reporting limits for these compounds in these samples were elevated as a result of the dilutions performed.

## 11. Laboratory Contact:

The laboratory was contacted on February 5, 2019 regarding an incomplete "Prep Batch Report". An acceptable response was received on February 7, 2019.

#### 12. Overall Assessment:

The analytical data is acceptable for use without qualification.

# DATA QUALITY ASSURANCE REVIEW

SITE NAME Frank J. Doy	le Salvage Removal Actio	n	
WORK ORDER NUMBER	20600.012.001.1175.01	TDD NUMBER	0001/18-175
PROJECT NUMBER		SDG NUMBER	HS19010607
Weston Solutions, Inc. (WES' 20600.012.001.1175.01; SDG No. analyzed for Polynuclear Aromatic below.	HS19010607; Frank J. Do	yle Salvage Remov	val Action. Three samples wer
	SAMPLE NUM	BERS	
DRA022-20190114-12-56	EAS08-20190114-46-5	6 FJD	04-08-20190114-46-56
This data package was validated to USEPA National Functional Guidelines for Laboratory Program National Functional Functional Functional Functional Functional Functional Functional Functional Functional Program National Functional Protocol for Holding qualifications are listed in the follows:	clines for Organic Superful for Inorganic Superfund inctional Guidelines for H Quality Control Guidance g Times, Blanks, and V	nd Methods Data R Data Review (Janu ligh Resolution Sup for Removal Activi	Peview (January, 2017), USEP, Lary, 2017), USEPA Contractor of the
REVIEWER Gloria I Swit	alski	DATE	February 8, 2019

## **Data Qualifiers**

Data Qualifier Definitions were supplied by the Office of Solid Waste and Emergency Response (September 1989) and are included in the Functional Guidelines. Data qualifiers may be combined (UJ, QJ) with the corresponding combination of meanings. Additional qualifiers may be added to provide additional, more specific information (JL, UB, QJK), modifying the meaning of the primary qualifier. Additional qualifiers utilized by WESTON are H, L, K, B, and Q.

U - The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation or detection limit, which has been adjusted for sample weight/sample volume, extraction volume, percent solids, sample dilution or other analysis specific parameters.

An additional qualifier, "B", may be appended to indicate that while the analyte was detected in the sample, the presence of the analyte may be attributable to blank contamination and the analyte is therefore considered undetected with the sample detection or quantitation limit for the analyte being elevated.

J - The analyte was analyzed for, but the associated numerical value may not be consistent with the amount actually present in the environmental sample or may not be consistent with the sample detection or quantitation limit. The value is an estimated quantity. The data should be seriously considered for decision-making and are usable for many purposes.

An additional qualifier will be appended to the "J" qualifier that indicates the bias in the reported results:

- L Low bias
- H High bias
- K Unknown bias
- Q The reported concentration is less than the sample quantitation limit for the specific analyte in the sample.

The L and H qualifier will only be employed when a single qualification is required. When more than one quality control parameter affects the analytical result and a conflict results in assigning a bias, the result will be flagged JK.

- R Quality Control indicates that data are unusable for all purposes. The analyte was analyzed for, but the presence or absence of the analyte has not been verified. Resampling and reanalysis are necessary for verification to confirm or deny the presence of an analyte.
- N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

#### PAH FRACTION EVALUATION

# 1. Analytical Method:

Samples were prepared and analyzed using the procedures specified in SW-846 Method 8270D selective ion monitoring (SIM).

# 2. Holding Time:

The samples were received within the recommended  $\leq$ 6°C NFG limit. All samples were extracted within the required holding time of less than 7 days for waters and less than 14 days for solids/wastes after collection. Analysis of the samples was conducted within 40 days of extraction. No qualifications are placed on the data.

# 3. Tuning/Performance:

DFTPP tuning of the mass spectrometer(s) was conducted at the required frequency and results were within the required criteria. No qualifications are placed on the data.

#### 4. Initial Calibration:

All individual relative response factors (RRFs) and average RRFs for the initial calibration (IC) were greater than the compound dependent (see Table 34 of National Functional Guidelines) control limits. All percent relative standard deviations (%RSDs) were less than the compound dependent (see Table 34 of National Functional Guidelines) control limits or the correlation coefficient was > 0.990. No qualifications are placed on the data.

# 5. Continuing Calibration:

All individual RRFs for the initial calibration verification (ICV) and continuing calibration (CC) standards were greater than the compound dependent (see Table 34 of National Functional Guidelines) control limits. All percent differences (%Ds) were less than the compound dependent (see Table 34 of National Functional Guidelines) control limits. No qualifications are placed on the data.

#### 6. Blanks:

# A. Laboratory Blanks:

A method blank was prepared at the required frequency of every time samples were extracted for each matrix and concentration or every 20 samples whichever is greater. Target analytes were not detected in the method at concentrations that warrant blank action. No qualifications are placed on the data.

#### B Field Blanks:

No field blank samples were submitted with this analytical package. No qualifications are placed on the data.

## 7. System Monitoring Compounds (SMC):

All recoveries of the system monitoring compounds (surrogates) were within the control limits provided. No qualifications are placed on the data.

## 8. Duplicates:

# A. Laboratory Duplicate Analysis:

Sample DRA022-20190114-12-56 underwent matrix spike/matrix spike duplicate (MS/MSD) analysis for the solid matrix. QC criteria are that the relative percent difference (RPD) values for the duplicate sample analysis are less than 20% for aqueous samples and less than 35% for solid samples. All QC criteria were met. No qualifications are placed on the data.

## B. Field Duplicate Analysis:

No field duplicate samples were submitted with this analytical package. No qualifications are placed on the data.

# 9. Matrix Spike/Matrix Spike Duplicate:

Sample DRA022-20190114-12-56 underwent MS/MSD analysis for the solid matrix. Recoveries of all spiked analytes were within the control limits provided in both the matrix spike and matrix spike duplicate. No qualifications are placed on the data.

## 10. Internal Standards:

Areas of the following internal standards were outside of the control limit of a factor of 2 (-50% to +100%) or retention times were not within 30 seconds from the associated 12 hour calibration standard:

SAMPLE ID	INTERNAL STANDARD	% AREA OF 12 HR STD	QUALIFIER FLAG
FJD04-20190114-46-56	Naphthalene-d8	39	UJK, naphthalene

# 11. Laboratory Control Sample (LCS):

The laboratory analyzed an LCS and recoveries were within the control limits provided. No qualifications are placed on the data.

## 12. Target Compound Identification:

All target compounds reported by the laboratory met identification criteria of relative retention times (RRT) within 0.06 RRT units of the 12 hour standard and that all ions present in the standard mass spectrum were present in the sample mass spectrum and the abundance of these ions agreed within  $\pm$  20% of the standard. No qualifications are placed on the data.

## 13. Target Compound Quantitation and Reporting Limits:

Concentrations of all reported compounds were correctly calculated.

Reported concentrations less than the reporting limit (RL) qualified "J" by the laboratory are qualified "JQ" to indicate that the result is less than the RL but greater than the method detection limit (MDL).

# 14. Laboratory Contact:

The laboratory was contacted on February 5, 2019 regarding an incorrect statement in the case narrative and which samples are associated with the internal standard which failed criteria. An acceptable response was received on February 7, 2019.

# 15. Overall Assessment

The naphthalene result in one sample was estimated due to low internal standard area recovery.

Reported concentrations less than the RL qualified "J" by the laboratory were qualified "JQ" to indicate that the result is less than the RL but greater than the MDL.

The analytical data is acceptable for use with the qualifications listed above.

# DATA QUALITY ASSURANCE REVIEW

SITE NAME Frank J. Doy	le Salvage Removal Action	on	
WORK ORDER NUMBER	20600.012.001.1175.01	TDD NUMBER	0001/18-175
PROJECT NUMBER		SDG NUMBER	HS19010607
Weston Solutions, Inc. (WES 20600.012.001.1175.01; SDG No. analyzed for metals (As, Cd, Co, F	HS19010607; Frank J. De	oyle Salvage Remov	val Action. Three samples were
	SAMPLE NUM	IBERS	
DRA022-20190114-12-56	EAS08-20190114-46-:	56 <u>FJD</u>	04-08-20190114-46-56
	· -		
This data package was validated to USEPA National Functional Guide National Functional Guidelines y Laboratory Program National Fu (April, 2016), Quality Assurance/9 the Regional Protocol for Holding qualifications are listed in the follows:	elines for Organic Superfi for Inorganic Superfund Inctional Guidelines for I Quality Control Guidance Ig Times, Blanks, and V	ind Methods Data R Data Review (Janu High Resolution Sup e for Removal Activi	eview (January, 2017), USEPA nary, 2017), USEPA Contract perfund Methods Data Review ties (September, 2011), and/or
REVIEWER Gloria J. Swi	talski	DATE	February 5, 2019

# **Data Qualifiers**

Data Qualifier Definitions were supplied by the Office of Solid Waste and Emergency Response (September 1989) and are included in the Functional Guidelines. Data qualifiers may be combined (UJ, QJ) with the corresponding combination of meanings. Additional qualifiers may be added to provide additional, more specific information (JL, UB, QJK), modifying the meaning of the primary qualifier. Additional qualifiers utilized by WESTON are H, L, K, B, and Q.

U - The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation or detection limit, which has been adjusted for sample weight/sample volume, extraction volume, percent solids, sample dilution or other analysis specific parameters.

An additional qualifier, "B", may be appended to indicate that while the analyte was detected in the sample, the presence of the analyte may be attributable to blank contamination and the analyte is therefore considered undetected with the sample detection or quantitation limit for the analyte being elevated.

J - The analyte was analyzed for, but the associated numerical value may not be consistent with the amount actually present in the environmental sample or may not be consistent with the sample detection or quantitation limit. The value is an estimated quantity. The data should be seriously considered for decision-making and are usable for many purposes.

An additional qualifier will be appended to the "J" qualifier that indicates the bias in the reported results:

- L Low bias
- H High bias
- K Unknown bias
- Q The reported concentration is less than the sample quantitation limit for the specific analyte in the sample.

The L and H qualifier will only be employed when a single qualification is required. When more than one quality control parameter affects the analytical result and a conflict results in assigning a bias, the result will be flagged JK.

- R Quality Control indicates that data are unusable for all purposes. The analyte was analyzed for, but the presence or absence of the analyte has not been verified. Resampling and reanalysis are necessary for verification to confirm or deny the presence of an analyte.
- N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

#### METALS DATA EVALUATION

## 1. Analytical Method:

Samples were prepared and analyzed for ICP metals using the procedures specified in SW-846 Method 6020A.

# 2. Holding Times:

All samples met established holding time criteria of 180 days for ICP metals. No qualifications are placed on the data.

#### 3. Initial Calibration:

ICP initial calibration included a blank and five standards and initial calibration verification results fell within the control limits of 90% to 110% of the true values. No qualifications are placed on the data.

# 4. Continuing Calibration:

All ICP results fell within the control limits of 90% to 110% of the true values. No qualifications are placed on the data.

#### 5. CRDL Standard:

All results for the CRDL standard were within the control limits of 70% to 130% of the true values or the sample results were greater than the CRDL action level. No qualifications are placed on the data.

### 6. Blanks:

#### A. Laboratory Blanks:

A method blank was prepared at the required frequency of every time samples were prepared/digested for each matrix or every 20 samples whichever is greater. Target analytes were not detected in the method and calibration blanks at concentrations that warrant blank action. No qualifications are placed on the data.

#### B. Field Blanks:

No field blank samples were submitted with this analytical package. No qualifications are placed on the data.

### 7. ICP Interference Check:

All results for the interference check sample were within the control limits of 80% to 120% of the true values. No qualifications are placed on the data.

#### 8. Laboratory Control Sample (LCS):

The recoveries for the LCS were within the control limits provided. No qualifications are placed on the data.

# 9. Duplicate Sample Analysis:

# A. Laboratory Duplicate Analysis:

No sample from this analytical package underwent matrix spike/matrix spike duplicate (MS/MSD) analysis for ICP metals for the solid matrix. No qualifications are placed on the data.

# B. Field Duplicate Analysis:

No field duplicate samples were submitted with this analytical package. No qualifications are placed on the data.

# 10. Spiked Sample Analysis:

No sample from this analytical package underwent MS/MSD analysis for ICP metals for the solid matrix. No qualifications are placed on the data.

## 11. ICP Serial Dilution:

No sample from this analytical package underwent serial dilution for the solid matrix for ICP metals. No qualifications are placed on the data.

# 12. Sample Quantitation and Reporting Limits:

Concentrations of all reported analytes were correctly calculated.

Reported concentrations less than the reporting limit (RL) qualified "J" by the laboratory are qualified "JQ" to indicate that the result is less than the RL but greater than the method detection limit (MDL).

Some ICP metals analytes in some samples were analyzed at a 100 or 200-fold dilution. Reporting limits for these analytes in these samples were elevated as a result of the dilutions performed.

## 13. Laboratory Contact

No laboratory contact was required.

#### 14. Overall Assessment:

Reported concentrations less than the RL qualified "J" by the laboratory were qualified "JQ" to indicate that the result is less than the RL but greater than the MDL.

The analytical data is acceptable for use with the qualifications listed above.

Weston Solutions, Inc.

Project:

FJ Doyle RA/TX

Sample ID:

DRA022-20190114-12-56

Collection Date:

14-Jan-2019 11:47

**ANALYTICAL REPORT** 

WorkOrder:HS19010607 Lab ID:HS19010607-01

Matrix:Soil

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL PAHS		Method:S	SW8270		Prep:SW3541 / 1	5-Jan-2019	Analyst: ACN
Acenaphthene	U	***************************************	0.00066	0.0043	mg/Kg-dry	1	16-Jan-2019 11:36
Acenaphthylene	U		0.0013	0.0043	mg/Kg-dry	1	16-Jan-2019 11:36
Anthracene	U		0.00066	0.0043	mg/Kg-dry	1	16-Jan-2019 11:36
Benz(a)anthracene	0.0032	ST.	0.0021	0.0043	mg/Kg-dry	1	16-Jan-2019 11:36
Benzo(a)pyrene	0.0043	بالمد	0.0013	0.0043	mg/Kg-dry	1	16-Jan-2019 11:36
Benzo(b)fluoranthene	0.0051	•	0.0016	0.0043	mg/Kg-dry	1	16-Jan-2019 11:36
Benzo(g,h,i)perylene	0.0032	× 200	0.00092	0.0043	mg/Kg-dry	1	16-Jan-2019 11:36
Benzo(k)fluoranthene	0.0027	<b>♪</b> \	0.0012	0.0043	mg/Kg-dry	1	16-Jan-2019 11:36
Chrysene	0.0041	ىل مە	0.0011	0.0043	mg/Kg-dry	1 .	16-Jan-2019 11:36
Dibenz(a,h)anthracene	U	***************************************	0.0021	0.0043	mg/Kg-dry	1	16-Jan-2019 11:36
Fluoranthene	0.0044		0.0014	0.0043	mg/Kg-dry	1	16-Jan-2019 11:36
Fluorene	U	•	0.0014	0.0043	mg/Kg-dry	1	16-Jan-2019 11:36
Indeno(1,2,3-cd)pyrene	0.0032	2 D	0.0011	0.0043	mg/Kg-dry	1	16-Jan-2019 11:36
Naphthalene	U	****	0.00079	0.0043	mg/Kg-dry	1	16-Jan-2019 11:36
Phenanthrene	0.0021	150	0.0020	0.0043	mg/Kg-dry	1	16-Jan-2019 11:36
Pyrene	0.0039	A JO	0.00079	0.0043	mg/Kg-dry	. 1	16-Jan-2019 11:36
Surr: 2-Fluorobiphenyl	82.6	- •		43-125	%REC	1	16-Jan-2019 11:36
Surr: 4-Terphenyl-d14	99.6			32-125	%REC	1	16-Jan-2019 11:36
Surr: Nitrobenzene-d5	76.8			37-125	%REC	1	16-Jan-2019 11:36
PCBS BY SW8082A		Method:8	SW8082		Prep:SW3541/36	65A / 15-Jan-	2019 Analyst: JLJ
Aroclor 1016	U		0.0055	0.022	mg/Kg-dry	1	16-Jan-2019 09:50
Aroclor 1221	U		0.0074	0.022	mg/Kg-dry	1	16-Jan-2019 09:50
Aroclor 1232	U		0.0059	0.022	mg/Kg-dry	1	16-Jan-2019 09:50
Aroclor 1242	U		0.0078	0.022	mg/Kg-dry	1	16-Jan-2019 09:50
Aroclor 1248	U		0.0078	0.022	mg/Kg-dry	1	16-Jan-2019 09:50
Aroclor 1254	U		0.0062	0.022	mg/Kg-dry	1	16-Jan-2019 09:50
Aroclor 1260	0.033		0.0053	0.022	mg/Kg-dry	1	16-Jan-2019 09:50
Surr: Decachlorobiphenyl	92.8		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	54-143	%REC	1	16-Jan-2019 09:50
Surr: Tetrachloro-m-xylene	87.9			50-140	%REC	1	16-Jan-2019 09:50
METALS BY SW6020A		Method:S	SW6020		Prep:SW3050A /	14-Jan-2019	Analyst: JCJ
Arsenic	4.91		0.0855	0.611	mg/Kg-dry	1	15-Jan-2019 20:21
Cadmium	0.859	100 communication (1000 to 1000 to 100	0.0330	0.611	mg/Kg-dry	1	15-Jan-2019 20:21
Cobalt	6.85		0.0183	0.611	mg/Kg-dry		15-Jan-2019 20:21
lron	11,000		2.23	61.1	mg/Kg-dry	1	15-Jan-2019 20:21
Lead	55.7		0.0159	0.611	mg/Kg-dry		15-Jan-2019 20:21
Manganese	1,220	a	5.25	61.1	mg/Kg-dry		16-Jan-2019 12:04
MOISTURE - ASTM D2216		/lethod:AS					Analyst: DFF
Percent Moisture	24.2		0.0100	0.0100	wt%	1	15-Jan-2019 11:58

Note: See Qualifiers Page for a list of qualifiers and their explanation.



B 21919

Weston Solutions, Inc.

Project: FJ Doyle RA/TX

Sample ID:

EAS08-20190114-46-56

Collection Date:

14-Jan-2019 11:55

**ANALYTICAL REPORT** 

WorkOrder:HS19010607 Lab ID:HS19010607-02

Matrix:Soil

2333 23								
ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED	
LOW-LEVEL PAHS		Method:S	W8270		Prep:SW3541 / 1	5-Jan-2019	Analyst: ACN	
Acenaphthene	U		0.00063	0.0042	mg/Kg-dry	1	16-Jan-2019 13:14	
Acenaphthylene	U	*****	0.0013	0.0042	mg/Kg-dry	1	16-Jan-2019 13:14	
Anthracene	U		0.00063	0.0042	mg/Kg-dry	1	16-Jan-2019 13:14	
Benz(a)anthracene	0.014		0.0020	0.0042	mg/Kg-dry	1	16-Jan-2019 13:14	
Benzo(a)pyrene	0.037		0.0013	0.0042	mg/Kg-dry	1	16-Jan-2019 13:14	
Benzo(b)fluoranthene	0.067		0.0015	0.0042	mg/Kg-dry	1	16-Jan-2019 13:14	
Benzo(g,h,i)perylene	0.033		0.00088	0.0042	mg/Kg-dry	1	16-Jan-2019 13:14	
Benzo(k)fluoranthene	0.027		0.0011	0.0042	mg/Kg-dry	1	16-Jan-2019 13:14	
Chrysene	0.028		0.0010	0.0042	mg/Kg-dry	1	16-Jan-2019 13:14	
Dibenz(a,h)anthracene	0.0092		0.0020	0.0042	mg/Kg-dry	1	16-Jan-2019 13:14	
Fluoranthene	0.018		0.0014	0.0042	mg/Kg-dry	1	16-Jan-2019 13:14	
Fluorene	U		0.0014	0.0042	mg/Kg-dry	1	16-Jan-2019 13:14	
Indeno(1,2,3-cd)pyrene	0.040		0.0010	0.0042	mg/Kg-dry	1	16-Jan-2019 13:14	
Naphthalene	U		0.00076	0.0042	mg/Kg-dry	1	16-Jan-2019 13:14	
Phenanthrene	U		0.0019	0.0042	mg/Kg-dry	1	16-Jan-2019 13:14	
Pyrene	0.018	****	0.00076	0.0042	mg/Kg-dry	1	16-Jan-2019 13:14	
Surr: 2-Fluorobiphenyl	53.8			43-125	%REC	1	16-Jan-2019 13:14	
Surr: 4-Terphenyl-d14	72.1		***************************************	32-125	%REC	1	16-Jan-2019 13:14	
Surr: Nitrobenzene-d5	50.4			37-125	%REC	1	16-Jan-2019 13:14	
PCBS BY SW8082A		Method:S	W8082	Section 1997 Properties	Prep:SW3541/36	65A / 15-Jan-	2019 Analyst: JLJ	
Aroclor 1016	U	27 44114000000000000000000000000000000000	0.0053	0.021	mg/Kg-dry	1	16-Jan-2019 10:06	
Aroclor 1221	U	••••	0.0070	0.021	mg/Kg-dry	1	16-Jan-2019 10:06	
Aroclor 1232	U		0.0057	0.021	mg/Kg-dry	1	16-Jan-2019 10:06	
Aroclor 1242	U		0.0074	0.021	mg/Kg-dry	1	16-Jan-2019 10:06	
Aroclor 1248	U		0.0074	0.021	mg/Kg-dry	1	16-Jan-2019 10:06	
Aroclor 1254	U		0.0059	0.021	mg/Kg-dry	1	16-Jan-2019 10:06	
Aroclor 1260	25		0.50	2.1	mg/Kg-dry	100	16-Jan-2019 10:38	
Surr: Decachlorobiphenyl	0	JS		54-143	%REC	100	16-Jan-2019 10:38	
Surr: Decachlorobiphenyl	130			54-143	%REC	1	16-Jan-2019 10:06	
Surr: Tetrachloro-m-xylene	79.8			50-140	%REC	1	16-Jan-2019 10:06	
Surr: Tetrachloro-m-xylene	0	JS		50-140	%REC	100	16-Jan-2019 10:38	
METALS BY SW6020A		Method:S	W6020		Prep:SW3050A /	14-Jan-2019	Analyst: JCJ	
Arsenic	8.72		0.0827	0.591	mg/Kg-dry	1	15-Jan-2019 20:24	
Cadmium	0.530	420	0.0319	0.591	mg/Kg-dry	1	15-Jan-2019 20:24	
Cobalt	17.6	-1	0.0177	0.591	mg/Kg-dry	1	15-Jan-2019 20:24	
<b>!ron</b>	31,900		216	5910	mg/Kg-dry	100	16-Jan-2019 12:07	
Lead	28.9		0.0154	0.591	mg/Kg-dry	1	15-Jan-2019 20:24	
Manganese	2,330		10.2	118	mg/Kg-dry	200	16-Jan-2019 12:09	

Note: See Qualifiers Page for a list of qualifiers and their explanation.



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Weston Solutions, Inc.

Project: Sample ID: FJ Doyle RA/TX

EAS08-20190114-46-56

Collection Date:

14-Jan-2019 11:55

**ANALYTICAL REPORT** 

WorkOrder:HS19010607 Lab ID:HS19010607-02

Matrix:Soil

ANALYSES	RESULT QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
MOISTURE - ASTM D2216 Percent Moisture	Method: 20.8	ASTM D2216 0.0100	0.0100	wt%	1	Analyst: DFF 15-Jan-2019 11:58



8 0/5/19

Date: 17-Jan-19

Client:

Weston Solutions, Inc.

FJD04-08-20190114-46-56

Project:

FJ Doyle RA/TX

Sample ID: Collection Date:

14-Jan-2019 12:03

**ANALYTICAL REPORT** 

WorkOrder:HS19010607 Lab ID:HS19010607-03

Matrix:Soil

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL PAHS		Method:S	W8270		Prep:SW3541 / 1	5-Jan-2019	Analyst: ACN
Acenaphthene	U		0.00063	0.0042	mg/Kg-dry	1	16-Jan-2019 13:33
Acenaphthylene	U	***************************************	0.0013	0.0042	mg/Kg-dry	1	16-Jan-2019 13:33
Anthracene	U		0.00063	0.0042	mg/Kg-dry	1	16-Jan-2019 13:33
Benz(a)anthracene	U		0.0020	0.0042	mg/Kg-dry	1	16-Jan-2019 13:33
Benzo(a)pyrene	0.0014	DEK	0.0013	0.0042	mg/Kg-dry	1	16-Jan-2019 13:33
Benzo(b)fluoranthene	0.0026	4	0.0015	0.0042	mg/Kg-dry	1	16-Jan-2019 13:33
Benzo(g,h,i)perylene	0.0031	8	0.00088	0.0042	mg/Kg-dry	1	16-Jan-2019 13:33
Benzo(k)fluoranthene	0.0021	8	0.0011	0.0042	mg/Kg-dry	1	16-Jan-2019 13:33
Chrysene	U		0.0010	0.0042	mg/Kg-dry	1	16-Jan-2019 13:33
Dibenz(a,h)anthracene	Ü	Carry Charge Control	0.0020	0.0042	mg/Kg-dry	1	16-Jan-2019 13:33
Fluoranthene	U		0.0014	0.0042	mg/Kg-dry	1	16-Jan-2019 13:33
Fluorene	U		0.0014	0.0042	mg/Kg-dry	1	16-Jan-2019 13:33
Indeno(1,2,3-cd)pyrene	0.0021	400	0.0010	0.0042	mg/Kg-dry	1	16-Jan-2019 13:33
Naphthalene	<b>-</b>	N2K	0.00076	0.0042	mg/Kg-dry	1	16-Jan-2019 13:33
Phenanthrene	U		0.0019	0.0042	mg/Kg-dry	1	16-Jan-2019 13:33
Pyrene	U		0.00076	0.0042	mg/Kg-dry	1	16-Jan-2019 13:33
Surr: 2-Fluorobiphenyl	48.4			43-125	%REC	1	16-Jan-2019 13:33
Surr: 4-Terphenyl-d14	55.3		· · · · · · · · · · · · · · · · · · ·	32-125	%REC	1	16-Jan-2019 13:33
Surr: Nitrobenzene-d5	47.7			37-125	%REC	1	16-Jan-2019 13:33
PCBS BY SW8082A		Method:S	W8082		Prep:SW3541/36	65A / 15-Jan-	2019 Analyst JLJ
Aroclor 1016	U		0.0053	0.021	mg/Kg-dry	1	16-Jan-2019 09:03
Aroclor 1221	U		0.0071	0.021	mg/Kg-dry	1	16-Jan-2019 09:03
Aroclor 1232	U		0.0057	0.021	mg/Kg-dry	1	16-Jan-2019 09:03
Aroclor 1242	U		0.0074	0.021	mg/Kg-dry	1	16-Jan-2019 09:03
Aroclor 1248	U		0.0074	0.021	mg/Kg-dry	1	16-Jan-2019 09:03
Aroclor 1254	U	•••••	0.0059	0.021	mg/Kg-dry	1	16-Jan-2019 09:03
Aroclor 1260	7.7		0.13	0.53	mg/Kg-dry	25	16-Jan-2019 10:22
Surr: Decachlorobiphenyl	0	JS		54-143	%REC	25	16-Jan-2019 10:22
Surr: Decachlorobiphenyl	104			54-143	%REC	1	16-Jan-2019 09:03
Surr: Tetrachloro-m-xylene	71.0			50-140	%REC	1	16-Jan-2019 09:03
Surr: Tetrachloro-m-xylene	o	JS		50-140	%REC	25	16-Jan-2019 10:22
METALS BY SW6020A		Method:S	W6020		Prep:SW3050A /	14-Jan-2019	Analyst: JCJ
Arsenic	6.17		0.0859	0.614	mg/Kg-dry	1	15-Jan-2019 20:26
Cadmium	0.303	4.10	0.0331	0.614	mg/Kg-dry	1	15-Jan-2019 20:26
Cobalt	9.99	-4	0.0184	0.614	mg/Kg-dry	1	15-Jan-2019 20:26
Iron	15,600		2.25	61.4	mg/Kg-dry		15-Jan-2019 20:26
Lead	17.1		0.0160	0.614	mg/Kg-dry		15-Jan-2019 20:26
Manganese	1,480	A.W	5.28	61.4	mg/Kg-dry		16-Jan-2019 12:11

Note: See Qualifiers Page for a list of qualifiers and their explanation.



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**ALS Houston, US** 

Date: 17-Jan-19

Client:

Weston Solutions, Inc.

Project:

FJ Doyle RA/TX

Sample ID:

FJD04-08-20190114-46-56

Collection Date:

14-Jan-2019 12:03

**ANALYTICAL REPORT** 

WorkOrder:HS19010607

Lab ID:HS19010607-03

Matrix:Soil

ANALYSES	RESULT QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
MOISTURE - ASTM D2216		ASTM D2216		40/	_	Analyst: DFF
Percent Moisture	20.9	0.0100	0.0100	wt%	1	15-Jan-2019 11:58



# DATA QUALITY ASSURANCE REVIEW

SITE NAME Frank J. Doy	le Salvage Removal Actio	n	
WORK ORDER NUMBER	20600.012.001.1175.01	TDD NUMBER	0001/18-175
PROJECT NUMBER		SDG NUMBER	HS19010685
Weston Solutions, Inc. (WES 20600.012.001.1175.01; SDG No. analyzed for Polychlorinated Biph below.	HS19010685; Frank J. D	oyle Salvage Remo	
	SAMPLE NUM	BERS	
DRA03-20190115-24-56	EAS07-20190115-36-5	6	
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mi i a la l		. 1.(00)	1: 1011 :
This data package was validated to USEPA National Functional Guidelines of Laboratory Program National Fu (April, 2016), Quality Assurance of the Regional Protocol for Holding qualifications are listed in the follows:	elines for Organic Superfu for Inorganic Superfund unctional Guidelines for H Quality Control Guidance ug Times, Blanks, and V	nd Methods Data R Data Review (Janu High Resolution Sup for Removal Activi	deview (January, 2017), USEP, ary, 2017), USEPA Contractions of Contractions (September, 2011), and/of-
DEVIEWED Gloria I Swi	talski	DATE	February 5, 2010

## **Data Qualifiers**

Data Qualifier Definitions were supplied by the Office of Solid Waste and Emergency Response (September 1989) and are included in the Functional Guidelines. Data qualifiers may be combined (UJ, QJ) with the corresponding combination of meanings. Additional qualifiers may be added to provide additional, more specific information (JL, UB, QJK), modifying the meaning of the primary qualifier. Additional qualifiers utilized by WESTON are H, L, K, B, and Q.

U - The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation or detection limit, which has been adjusted for sample weight/sample volume, extraction volume, percent solids, sample dilution or other analysis specific parameters.

An additional qualifier, "B", may be appended to indicate that while the analyte was detected in the sample, the presence of the analyte may be attributable to blank contamination and the analyte is therefore considered undetected with the sample detection or quantitation limit for the analyte being elevated.

J - The analyte was analyzed for, but the associated numerical value may not be consistent with the amount actually present in the environmental sample or may not be consistent with the sample detection or quantitation limit. The value is an estimated quantity. The data should be seriously considered for decision-making and are usable for many purposes.

An additional qualifier will be appended to the "J" qualifier that indicates the bias in the reported results:

- L Low bias
- H High bias
- K Unknown bias
- Q The reported concentration is less than the sample quantitation limit for the specific analyte in the sample.

The L and H qualifier will only be employed when a single qualification is required. When more than one quality control parameter affects the analytical result and a conflict results in assigning a bias, the result will be flagged JK.

- R Quality Control indicates that data are unusable for all purposes. The analyte was analyzed for, but the presence or absence of the analyte has not been verified. Resampling and reanalysis are necessary for verification to confirm or deny the presence of an analyte.
- N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

#### PCB FRACTION EVALUATION

# 1. Analytical Method:

Samples were prepared and analyzed for PCBs using the procedures specified in SW-846 Method 8082A.

#### 2. Holding Time:

The samples were received within the recommended  $\leq$ 6°C NFG limit. All samples were extracted within the required holding time of less than 1 year after collection. Analysis of the samples was conducted within 40 days of extraction. No qualifications are placed on the data.

## 3. Initial Calibration:

The correlation coefficient of the multipoint initial calibration was greater than or equal to 0.995 or the percent relative standard deviation (%RSD) was less than or equal to 20%. No qualifications are placed on the data.

## 4. Continuing Calibration:

The continuing calibration check was analyzed at the required frequency and met recovery requirements of 75%-125% [percent difference (%D) was less than 25%]. No qualifications are placed on the data.

#### 5. Blanks:

#### A. Laboratory Blanks:

A method blank was prepared at the required frequency of every time samples were extracted for each matrix and concentration or every 20 samples whichever is greater. No target analytes were detected in the method blanks at concentrations that warrant blank action. No qualifications are placed on the data.

## B. Field Blanks:

No field blank samples were submitted with this analytical package. No qualifications are placed on the data.

#### 6. Surrogates:

All recoveries of the surrogates were within the control limits provided or were diluted out. No qualifications are placed on the data.

# 7. Matrix Spikes/Matrix Spike Duplicates (MS/MSD):

Sample EAS07-20190115-36-56 underwent MS/MSD analysis for the solid matrix. Recoveries of all spiked analytes were within the control limits provided for analytes whose sample concentration did not exceed the spike concentration by a factor of four times or more. No qualifications are placed on the data.

# 8. Duplicates:

## A. Laboratory Duplicate Analysis:

Sample EAS07-20190115-36-56 underwent MS/MSD analysis for the solid matrix. QC criteria are that the relative percent difference (RPD) values for the duplicate sample analysis are less than 20% for aqueous samples and less than 35% for solid samples. All QC criteria were met. No qualifications are placed on the data.

## B. Field Duplicate Analysis:

No field duplicate samples were submitted with this analytical package. No qualifications are placed on the data.

## 9. Laboratory Control Sample (LCS):

The laboratory analyzed an LCS and recoveries were within the control limits provided. No qualifications are placed on the data.

# 10. Target Compound Identification, Quantitation, and Reporting Limits:

Concentrations of all reported compounds were correctly calculated.

The %D between the column results were within the acceptance limits (≤25). No qualifications are placed on the data.

Some PCB samples were analyzed at a dilution for some compounds. Reporting limits for these compounds in these samples were elevated as a result of the dilutions performed.

# 11. Laboratory Contact:

No laboratory contact was required.

#### 12. Overall Assessment:

The analytical data is acceptable for use without qualification.

# DATA QUALITY ASSURANCE REVIEW

SITE NAME Frank J. Doy	le Salvage Removal Actio	n	
WORK ORDER NUMBER	20600.012.001.1175.01	TDD NUMBER	0001/18-175
PROJECT NUMBER		SDG NUMBER	HS19010685
Weston Solutions, Inc. (WES 20600.012.001.1175.01; SDG No. analyzed for Polynuclear Aromatic below.	HS19010685; Frank J. D	oyle Salvage Remo	
	SAMPLE NUM	BERS	
DRA03-20190115-24-56	EAS07-20190115-36-5	6	
This data package was validated to USEPA National Functional Guide		` ` ' <b>`</b>	
National Functional Guidelines of Laboratory Program National Fu (April, 2016), Quality Assurance/9 the Regional Protocol for Holdin qualifications are listed in the follows:	for Inorganic Superfund unctional Guidelines for H Quality Control Guidance ug Times, Blanks, and V	Data Review (Janu Iigh Resolution Sup for Removal Activi	pary, 2017), USEPA Contractions of the Contraction
PEVIEWER Gloria I Swi	taleki	DATE	February 5, 2010

### **Data Qualifiers**

Data Qualifier Definitions were supplied by the Office of Solid Waste and Emergency Response (September 1989) and are included in the Functional Guidelines. Data qualifiers may be combined (UJ, QJ) with the corresponding combination of meanings. Additional qualifiers may be added to provide additional, more specific information (JL, UB, QJK), modifying the meaning of the primary qualifier. Additional qualifiers utilized by WESTON are H, L, K, B, and Q.

U - The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation or detection limit, which has been adjusted for sample weight/sample volume, extraction volume, percent solids, sample dilution or other analysis specific parameters.

An additional qualifier, "B", may be appended to indicate that while the analyte was detected in the sample, the presence of the analyte may be attributable to blank contamination and the analyte is therefore considered undetected with the sample detection or quantitation limit for the analyte being elevated.

J - The analyte was analyzed for, but the associated numerical value may not be consistent with the amount actually present in the environmental sample or may not be consistent with the sample detection or quantitation limit. The value is an estimated quantity. The data should be seriously considered for decision-making and are usable for many purposes.

An additional qualifier will be appended to the "J" qualifier that indicates the bias in the reported results:

- L Low bias
- H High bias
- K Unknown bias
- Q The reported concentration is less than the sample quantitation limit for the specific analyte in the sample.

The L and H qualifier will only be employed when a single qualification is required. When more than one quality control parameter affects the analytical result and a conflict results in assigning a bias, the result will be flagged JK.

- R Quality Control indicates that data are unusable for all purposes. The analyte was analyzed for, but the presence or absence of the analyte has not been verified. Resampling and reanalysis are necessary for verification to confirm or deny the presence of an analyte.
- N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

#### PAH FRACTION EVALUATION

# 1. Analytical Method:

Samples were prepared and analyzed using the procedures specified in **SW-846 Method 8270D selective ion monitoring (SIM).** 

# 2. Holding Time:

The samples were received within the recommended  $\leq$ 6°C NFG limit. All samples were extracted within the required holding time of less than 7 days for waters and less than 14 days for solids/wastes after collection. Analysis of the samples was conducted within 40 days of extraction. No qualifications are placed on the data.

# 3. Tuning/Performance:

DFTPP tuning of the mass spectrometer(s) was conducted at the required frequency and results were within the required criteria. No qualifications are placed on the data.

#### 4. Initial Calibration:

All individual relative response factors (RRFs) and average RRFs for the initial calibration (IC) were greater than the compound dependent (see Table 34 of National Functional Guidelines) control limits. All percent relative standard deviations (%RSDs) were less than the compound dependent (see Table 34 of National Functional Guidelines) control limits or the correlation coefficient was > 0.990. No qualifications are placed on the data.

# 5. Continuing Calibration:

All individual RRFs for the initial calibration verification (ICV) and continuing calibration (CC) standards were greater than the compound dependent (see Table 34 of National Functional Guidelines) control limits. All percent differences (%Ds) were less than the compound dependent (see Table 34 of National Functional Guidelines) control limits. No qualifications are placed on the data.

#### 6. Blanks:

# A. Laboratory Blanks:

A method blank was prepared at the required frequency of every time samples were extracted for each matrix and concentration or every 20 samples whichever is greater. Target analytes were not detected in the method at concentrations that warrant blank action. No qualifications are placed on the data.

#### B Field Blanks:

No field blank samples were submitted with this analytical package. No qualifications are placed on the data.

## 7. System Monitoring Compounds (SMC):

All recoveries of the system monitoring compounds (surrogates) were within the control limits provided. No qualifications are placed on the data.

## 8. Duplicates:

# A. Laboratory Duplicate Analysis:

Sample DRA03-20190115-24-56 underwent matrix spike/matrix spike duplicate (MS/MSD) analysis for the solid matrix. QC criteria are that the relative percent difference (RPD) values for the duplicate sample analysis are less than 20% for aqueous samples and less than 35% for solid samples. All QC criteria were met. No qualifications are placed on the data.

## B. Field Duplicate Analysis:

No field duplicate samples were submitted with this analytical package. No qualifications are placed on the data.

# 9. Matrix Spike/Matrix Spike Duplicate:

Sample DRA03-20190115-24-56 underwent MS/MSD analysis for the solid matrix. Recoveries of all spiked analytes were within the control limits provided in both the matrix spike and matrix spike duplicate. No qualifications are placed on the data.

## 10. Internal Standards:

Areas of the six internal standards were within the control limits of a factor of 2 (-50% to +100%) and retention times were within 30 seconds from the associated 12 hour calibration standard. No qualifications are placed on the data.

# 11. Laboratory Control Sample (LCS):

The laboratory analyzed an LCS and recoveries were within the control limits provided. No qualifications are placed on the data.

#### 12. Target Compound Identification:

All target compounds reported by the laboratory met identification criteria of relative retention times (RRT) within 0.06 RRT units of the 12 hour standard and that all ions present in the standard mass spectrum were present in the sample mass spectrum and the abundance of these ions agreed within  $\pm$  20% of the standard. No qualifications are placed on the data.

## 13. Target Compound Quantitation and Reporting Limits:

Concentrations of all reported compounds were correctly calculated.

Reported concentrations less than the reporting limit (RL) qualified "J" by the laboratory are qualified "JQ" to indicate that the result is less than the RL but greater than the method detection limit (MDL).

## 14. Laboratory Contact:

No laboratory contact was required.

# 15. Overall Assessment

Reported concentrations less than the RL qualified "J" by the laboratory were qualified "JQ" to indicate that the result is less than the RL but greater than the MDL.

The analytical data is acceptable for use with the qualifications listed above.

# DATA QUALITY ASSURANCE REVIEW

SITE NAME Frank J. Doy	le Salvage Removal Actio	n	
WORK ORDER NUMBER	20600.012.001.1175.01	TDD NUMBER	0001/18-175
PROJECT NUMBER		SDG NUMBER	HS19010685
Weston Solutions, Inc. (WES 20600.012.001.1175.01; SDG No. analyzed for metals (As, Cd, Co, F	HS19010685; Frank J. D	oyle Salvage Remo	val Action. Two samples were
	SAMPLE NUM	BERS	
DRA03-20190115-24-56	EAS07-20190115-36-5	56	
	-		
This data package was validated to USEPA National Functional Guidelines J. Laboratory Program National Fi (April, 2016), Quality Assurance/the Regional Protocol for Holdingualifications are listed in the follows:	elines for Organic Superfu for Inorganic Superfund unctional Guidelines for I Quality Control Guidance ug Times, Blanks, and V	ind Methods Data R Data Review (Janu High Resolution Sup for Removal Activi	eview (January, 2017), USEPA pary, 2017), USEPA Contrac perfund Methods Data Review ties (September, 2011), and/o
REVIEWER Gloria J. Swi	talski	DATE	February 5, 2019

# **Data Qualifiers**

Data Qualifier Definitions were supplied by the Office of Solid Waste and Emergency Response (September 1989) and are included in the Functional Guidelines. Data qualifiers may be combined (UJ, QJ) with the corresponding combination of meanings. Additional qualifiers may be added to provide additional, more specific information (JL, UB, QJK), modifying the meaning of the primary qualifier. Additional qualifiers utilized by WESTON are H, L, K, B, and Q.

U - The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation or detection limit, which has been adjusted for sample weight/sample volume, extraction volume, percent solids, sample dilution or other analysis specific parameters.

An additional qualifier, "B", may be appended to indicate that while the analyte was detected in the sample, the presence of the analyte may be attributable to blank contamination and the analyte is therefore considered undetected with the sample detection or quantitation limit for the analyte being elevated.

J - The analyte was analyzed for, but the associated numerical value may not be consistent with the amount actually present in the environmental sample or may not be consistent with the sample detection or quantitation limit. The value is an estimated quantity. The data should be seriously considered for decision-making and are usable for many purposes.

An additional qualifier will be appended to the "J" qualifier that indicates the bias in the reported results:

- L Low bias
- H High bias
- K Unknown bias
- Q The reported concentration is less than the sample quantitation limit for the specific analyte in the sample.

The L and H qualifier will only be employed when a single qualification is required. When more than one quality control parameter affects the analytical result and a conflict results in assigning a bias, the result will be flagged JK.

- R Quality Control indicates that data are unusable for all purposes. The analyte was analyzed for, but the presence or absence of the analyte has not been verified. Resampling and reanalysis are necessary for verification to confirm or deny the presence of an analyte.
- N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

#### METALS DATA EVALUATION

## 1. Analytical Method:

Samples were prepared and analyzed for ICP metals using the procedures specified in SW-846 Method 6020A.

# 2. Holding Times:

All samples met established holding time criteria of 180 days for ICP metals. No qualifications are placed on the data.

#### 3. Initial Calibration:

ICP initial calibration included a blank and five standards and initial calibration verification results fell within the control limits of 90% to 110% of the true values. No qualifications are placed on the data.

# 4. Continuing Calibration:

All ICP results fell within the control limits of 90% to 110% of the true values. No qualifications are placed on the data.

#### 5. CRDL Standard:

All results for the CRDL standard were within the control limits of 70% to 130% of the true values or the sample results were greater than the CRDL action level. No qualifications are placed on the data.

### 6. Blanks:

#### A. Laboratory Blanks:

A method blank was prepared at the required frequency of every time samples were prepared/digested for each matrix or every 20 samples whichever is greater. Target analytes were not detected in the method and calibration blanks at concentrations that warrant blank action. No qualifications are placed on the data.

#### B. Field Blanks:

No field blank samples were submitted with this analytical package. No qualifications are placed on the data.

### 7. ICP Interference Check:

All results for the interference check sample were within the control limits of 80% to 120% of the true values. No qualifications are placed on the data.

#### 8. Laboratory Control Sample (LCS):

The recoveries for the LCS were within the control limits provided. No qualifications are placed on the data.

# 9. Duplicate Sample Analysis:

# A. Laboratory Duplicate Analysis:

No sample from this analytical package underwent matrix spike/matrix spike duplicate (MS/MSD) analysis for ICP metals for the solid matrix. No qualifications are placed on the data.

# B. Field Duplicate Analysis:

No field duplicate samples were submitted with this analytical package. No qualifications are placed on the data.

# 10. Spiked Sample Analysis:

No sample from this analytical package underwent MS/MSD analysis for ICP metals for the solid matrix. No qualifications are placed on the data.

## 11. ICP Serial Dilution:

No sample from this analytical package underwent serial dilution for the solid matrix for ICP metals. No qualifications are placed on the data.

# 12. Sample Quantitation and Reporting Limits:

Concentrations of all reported analytes were correctly calculated.

Reported concentrations less than the reporting limit (RL) qualified "J" by the laboratory are qualified "JQ" to indicate that the result is less than the RL but greater than the method detection limit (MDL).

Some ICP metals analytes in some samples were analyzed at a 100-fold dilution. Reporting limits for these analytes in these samples were elevated as a result of the dilutions performed.

## 13. Laboratory Contact

No laboratory contact was required.

#### 14. Overall Assessment:

Reported concentrations less than the RL qualified "J" by the laboratory were qualified "JQ" to indicate that the result is less than the RL but greater than the MDL.

The analytical data is acceptable for use with the qualifications listed above.

Client: Project: Weston Solutions, Inc.

FJ Doyle RA/TX

Sample ID:

DRA03-20190115-24-56

Collection Date:

15-Jan-2019 13:25

**ANALYTICAL REPORT** 

WorkOrder:HS19010685

Lab ID:HS19010685-01

Matrix:Soil

ANALYSES	RESULT	QUAL MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL PAHS		Method:SW8270		Prep:SW3541 / 1	6-Jan-2019	Analyst: GEY
Acenaphthene	U	0.00069	0.0046	mg/Kg-dry	1	16-Jan-2019 21:20
Acenaphthylene	U	0.0014	0.0046	mg/Kg-dry	1	16-Jan-2019 21:20
Anthracene	U	0.00069	0.0046	mg/Kg-dry	1	16-Jan-2019 21:20
Benz(a)anthracene	U	0.0022	0.0046	mg/Kg-dry	1	16-Jan-2019 21:20
Benzo(a)pyrene	U	0.0014	0.0046	mg/Kg-dry	1 .	16-Jan-2019 21:20
Benzo(b)fluoranthene	0.0072	0.0017	0.0046	mg/Kg-dry	1	16-Jan-2019 21:20
Benzo(g,h,i)perylene	U	0.00097	0.0046	mg/Kg-dry	1	16-Jan-2019 21:20
Benzo(k)fluoranthene	U	0.0012	0.0046	mg/Kg-dry	1	16-Jan-2019 21:20
Chrysene	υ	0.0011	0.0046	mg/Kg-dry	1	16-Jan-2019 21:20
Dibenz(a,h)anthracene	U	0.0022	0.0046	mg/Kg-dry	1	16-Jan-2019 21:20
Fluoranthene	υ	0.0015	0.0046	mg/Kg-dry	1	16-Jan-2019 21:20
Fluorene	U	0.0015	0.0046	mg/Kg-dry	1	16-Jan-2019 21:20
Indeno(1,2,3-cd)pyrene	U	0.0011	0.0046	mg/Kg-dry	1	16-Jan-2019 21:20
Naphthalene	U	0.00083	0.0046	mg/Kg-dry	1	16-Jan-2019 21:20
Phenanthrene	U	0.0021	0.0046	mg/Kg-dry	1	16-Jan-2019 21:20
Pyrene	Ü	0.00083	0.0046	mg/Kg-dry	1	16-Jan-2019 21:20
Surr: 2-Fluorobiphenyl	77.5	43	43-125	%REC	1	16-Jan-2019 21:20
Surr: 4-Terphenyl-d14	87.4		32-125	%REC	1	16-Jan-2019 21:20
Surr: Nitrobenzene-d5	79.7		37-125	%REC	1	16-Jan-2019 21:20
PCBS BY SW8082A		Method:SW8082		Prep:SW3541/36	65A / 16-Jan	-2019 Analyst: JLJ
Aroclor 1016	U	0.0058	0.023	mg/Kg-dry	1	17-Jan-2019 11:01
Aroclor 1221	U	0.0077	0.023	mg/Kg-dry	1	17-Jan-2019 11:01
Aroclor 1232	U	0.0062	0.023	mg/Kg-dry	1	17-Jan-2019 11:01
Aroclor 1242	U	0.0082	0.023	mg/Kg-dry	1	17-Jan-2019 11:01
Aroclor 1248	U	0.0082	0.023	mg/Kg-dry	1	17-Jan-2019 11:01
Aroclor 1254	U	0.0065	0.023	mg/Kg-dry	1	17-Jan-2019 11:01
Aroclor 1260	4.3	0.11	0.46	mg/Kg-dry	20	17-Jan-2019 11:33
Surr: Decachlorobiphenyl	87.6		54-143	%REC	1	17-Jan-2019 11:01
Surr: Decachlorobiphenyl	102	J	54-143	%REC	20	17-Jan-2019 11:33
Surr: Tetrachloro-m-xylene	82.2	en talkidea e e e e e e e e e e e e e e e e e e	50-140	%REC	1	17-Jan-2019 11:01
Surr: Tetrachloro-m-xylene	81.7	J	50-140	%REC	20	17-Jan-2019 11:33
METALS BY SW6020A		Method:SW6020	E Parties The Control of the Control	Prep:SW3050A /	16-Jan-2019	Analyst: JCJ
Arsenic	5.37	0.0934	0.667	mg/Kg-dry	1	16-Jan-2019 23:43
Cadmium	0.367	<b>∔</b> IØ 0.0360	0.667	mg/Kg-dry	1	16-Jan-2019 23:43
Cobalt	9.96	0.0200	0.667	mg/Kg-dry	1	16-Jan-2019 23:43
Iron	17,300	2.44	66.7	mg/Kg-dry	1	16-Jan-2019 23:43
Lead	12.9	0.0173	0.667	mg/Kg-dry	1	16-Jan-2019 23:43
Manganese	1,410	5.74	66.7	mg/Kg-dry	100	17-Jan-2019 12:56

Note: See Qualifiers Page for a list of qualifiers and their explanation.



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Date: 18-Jan-19

Client:

Weston Solutions, Inc.

Project:

FJ Doyle RA/TX

Sample ID:

DRA03-20190115-24-56

Collection Date:

15-Jan-2019 13:25

**ANALYTICAL REPORT** 

WorkOrder:HS19010685

Lab ID:HS19010685-01

Matrix:Soil

ANALYSES	RESULT	QUAL MDL	REPORT LIMIT	UNIT	DILUTION FACTOR	DATE ANALYZED
MOISTURE - ASTM D2216 Percent Moisture	<b>M</b> 27.9	ethod:ASTM D2216 0.0100	0.0100	wt%	1	Analyst: DFF 16-Jan-2019 10:49

Note: See Qualifiers Page for a list of qualifiers and their explanation.



\$ 2/5/19

Client: Project: Weston Solutions, Inc.

FJ Doyle RA/TX

Sample ID:

EAS07-20190115-36-56

Collection Date:

15-Jan-2019 13:35

**ANALYTICAL REPORT** 

WorkOrder:HS19010685

Lab ID:HS19010685-02

Matrix:Soil

ANALYSES	RESULT	QUAL	MDL	REPORT	UNITS	DILUTION FACTOR	DATE ANALYZED
				LIMIT		- AGIGN	
LOW-LEVEL PAHS	e de la companya de	Method:			Prep SW3541 / 1	6-Jan-2019	Analyst: GEY
Acenaphthene	U		0.00062	0.0041		1	16-Jan-2019 22:20
Acenaphthylene	U		0.0012	0.0041	5.5,	1	16-Jan-2019 22:20
Anthracene	U		0.00062	0.0041	mg/Kg-dry	1	16-Jan-2019 22:20
Benz(a)anthracene	0.0044		0.0020	0.0041	mg/Kg-dry	1	16-Jan-2019 22:20
Benzo(a)pyrene	0.0039	5 19	0.0012	0.0041	mg/Kg-dry	1	16-Jan-2019 22:20
Benzo(b)fluoranthene	0.0057		0.0015	0.0041	mg/Kg-dry	1	16-Jan-2019 22:20
Benzo(g,h,i)perylene	0.0029	7 70	0.00087	0.0041	mg/Kg-dry	1	16-Jan-2019 22:20
Benzo(k)fluoranthene	0.0022	ナル	0.0011	0.0041	mg/Kg-dry	1	16-Jan-2019 22:20
Chrysene	0.0054		0.00099	0.0041	mg/Kg-dry	1	16-Jan-2019 22:20
Dibenz(a,h)anthracene	U	***************************************	0.0020	0.0041	mg/Kg-dry	1	16-Jan-2019 22:20
Fluoranthene	0.0034	476	0.0014	0.0041	mg/Kg-dry	1	16-Jan-2019 22:20
Fluorene	U		0.0014	0.0041	mg/Kg-dry	1	16-Jan-2019 22:20
Indeno(1,2,3-cd)pyrene	0.0025	476	0.00099	0.0041	mg/Kg-dry	1	16-Jan-2019 22:20
Naphthalene	U	**************************************	0.00074	0.0041	mg/Kg-dry	1	16-Jan-2019 22:20
Phenanthrene	0.0030	DEF	0.0019	0.0041	mg/Kg-dry	1	16-Jan-2019 22:20
Pyrene	0.0051		0.00074	0.0041	mg/Kg-dry	1	16-Jan-2019 22:20
Surr: 2-Fluorobiphenyl	76.3			43-125	%REC	1	16-Jan-2019 22:20
Surr: 4-Terphenyl-d14	83.0	000 en 1000000 en en 0000 <del>844 en en</del> 0000	Dereser (1000/0000) - 1000 (1000/0000) (1000/0000)	32-125	%REC	1	16-Jan-2019 22:20
Surr: Nitrobenzene-d5	73.6			37-125	%REC	1	16-Jan-2019 22:20
PCBS BY SW8082A		Method:5	SW8082	elektrika di Karamana di K Karamana di Karamana di Ka	Prep:SW3541/36	35A / 16-Jan-	2019 Analyst: JLJ
Aroclor 1016	U		0.0052	0.021	mg/Kg-dry	1	17-Jan-2019 11:17
Aroclor 1221	U		0.0069	0.021	mg/Kg-dry	1	17-Jan-2019 11:17
Aroclor 1232	U		0.0056	0.021	mg/Kg-dry	1	17-Jan-2019 11:17
Aroclor 1242	U		0.0073	0.021	mg/Kg-dry	1	17-Jan-2019 11:17
Aroclor 1248	U		0.0073	0.021	mg/Kg-dry	1	17-Jan-2019 11:17
Aroclor 1254	U		0.0058	0.021	mg/Kg-dry	1	17-Jan-2019 11:17
Aroclor 1260	4.8		0.099	0.41	mg/Kg-dry	20	17-Jan-2019 11:49
Surr: Decachlorobiphenyl	103			54-143	%REC	1	17-Jan-2019 11:17
Surr: Decachlorobiphenyl	99.3	J		54-143	%REC	20	17-Jan-2019 11:49
Surr: Tetrachloro-m-xylene	89.7			50-140	%REC	1	17-Jan-2019 11:17
Surr: Tetrachloro-m-xylene	79.8	J		50-140	%REC	20	17-Jan-2019 11:49
METALS BY SW6020A		Method:S	SW6020		Prep:SW3050A /	16-Jan-2019	Analyst: JCJ
Arsenic	5.09		0.0817	0.583	mg/Kg-dry	1	16-Jan-2019 23:45
Cadmium	0.277	770	0.0315	0.583	mg/Kg-dry	1	16-Jan-2019 23:45
Cobalt	9.33	-4	0.0175	0.583	mg/Kg-dry		16-Jan-2019 23:45
Iron	18,400		2.13	58.3	mg/Kg-dry	1	16-Jan-2019 23:45
Lead	17.7		0.0152	0.583	mg/Kg-dry		16-Jan-2019 23:45
Manganese	1,140	······································	5.02	58.3	mg/Kg-dry		17-Jan-2019 12:58

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Note: See Qualifiers Page for a list of qualifiers and their explanation.



\$ 24/6

**ALS Houston, US** 

Date: 18-Jan-19

Client:

Weston Solutions, Inc.

Project:

FJ Doyle RA/TX

Sample ID:

EAS07-20190115-36-56

Collection Date:

15-Jan-2019 13:35

**ANALYTICAL REPORT** 

WorkOrder:HS19010685

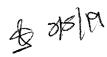
Lab ID:HS19010685-02

Matrix:Soil

ANALYSES	RESULT QUAL	MDL	REPORT LIMIT	UNITS	DILUTION	DATE ANALYZED
MOISTURE - ASTM D2216 Percent Moisture	Method:A	STM D2216 0.0100	0.0100	wt%	1	Analyst: DFF 16-Jan-2019 10:49

Note: See Qualifiers Page for a list of qualifiers and their explanation.





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# DATA QUALITY ASSURANCE REVIEW

SITE NAME Frank J. Doyle Salvage Removal Action

WORK ORDER NUMBER	20600.012.001.1175.01 TDD NU	JMBER 0001/18-175	
PROJECT NUMBER	SDG NU	MBER HS19010829	
20600.012.001.1175.01; SDG No. analyzed for Polychlorinated Bip	TON®) has completed a QA HS19010829; Frank J. Doyle Salva thenyl Compounds (PCBs) or Syntal. Sample numbers are listed below	ge Removal Action. Three sam hetic Precipitation Leaching	ples were
	SAMPLE NUMBERS		
DRA09-20190117-24-56	EAS07-20190115-36-56	FJD04-08-20190114-46-56	
		_	
		_	
USEPA National Functional Guide National Functional Guidelines J Laboratory Program National Fu (April, 2016), Quality Assurance/	o determine if Quality Control (QC) elines for Organic Superfund Methodor Inorganic Superfund Data Revanctional Guidelines for High Reso Quality Control Guidance for Remodeg Times, Blanks, and VOA Prese owing discussion.	ds Data Review (January, 2017) iew (January, 2017), USEPA lution Superfund Methods Dat val Activities (September, 201	), USEPA Contract ta Review 1), and/or
REVIEWER Gloria J. Swi	talski	DATE February 8, 2019	)

## **Data Qualifiers**

Data Qualifier Definitions were supplied by the Office of Solid Waste and Emergency Response (September 1989) and are included in the Functional Guidelines. Data qualifiers may be combined (UJ, QJ) with the corresponding combination of meanings. Additional qualifiers may be added to provide additional, more specific information (JL, UB, QJK), modifying the meaning of the primary qualifier. Additional qualifiers utilized by WESTON are H, L, K, B, and Q.

U - The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation or detection limit, which has been adjusted for sample weight/sample volume, extraction volume, percent solids, sample dilution or other analysis specific parameters.

An additional qualifier, "B", may be appended to indicate that while the analyte was detected in the sample, the presence of the analyte may be attributable to blank contamination and the analyte is therefore considered undetected with the sample detection or quantitation limit for the analyte being elevated.

J - The analyte was analyzed for, but the associated numerical value may not be consistent with the amount actually present in the environmental sample or may not be consistent with the sample detection or quantitation limit. The value is an estimated quantity. The data should be seriously considered for decision-making and are usable for many purposes.

An additional qualifier will be appended to the "J" qualifier that indicates the bias in the reported results:

- L Low bias
- H High bias
- K Unknown bias
- Q The reported concentration is less than the sample quantitation limit for the specific analyte in the sample.

The L and H qualifier will only be employed when a single qualification is required. When more than one quality control parameter affects the analytical result and a conflict results in assigning a bias, the result will be flagged JK.

- R Quality Control indicates that data are unusable for all purposes. The analyte was analyzed for, but the presence or absence of the analyte has not been verified. Resampling and reanalysis are necessary for verification to confirm or deny the presence of an analyte.
- N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

#### PCB FRACTION EVALUATION

# 1. Analytical Method:

Samples were prepared and analyzed for PCBs using the procedures specified in **SW-846 Method 8082A**. Samples were extracted for SPLP PCBs using the procedure specified in **SW-846 Method 1312**.

## 2. Holding Time:

The samples were received within the recommended ≤6°C NFG limit. All samples were extracted within the required holding time of less than 1 year after collection. Analysis of the samples was conducted within 40 days of extraction. All SPLP samples were extracted within the required holding time of less than 14 days for PCBs. No qualifications are placed on the data.

#### 3. Initial Calibration:

The correlation coefficient of the multipoint initial calibration was greater than or equal to 0.995 or the percent relative standard deviation (%RSD) was less than or equal to 20%. No qualifications are placed on the data.

## 4. Continuing Calibration:

The continuing calibration check was analyzed at the required frequency and met recovery requirements of 75%-125% [percent difference (%D) was less than 25%]. No qualifications are placed on the data.

#### 5. Blanks:

#### A. Laboratory Blanks:

A method blank was prepared at the required frequency of every time samples were extracted for each matrix and concentration or every 20 samples whichever is greater. No target analytes were detected in the method blanks at concentrations that warrant blank action. No qualifications are placed on the data.

#### B. Field Blanks:

No field blank samples were submitted with this analytical package. No qualifications are placed on the data.

#### 6. Surrogates:

All recoveries of the surrogates were within the control limits provided or were diluted out. No qualifications are placed on the data.

# 7. Matrix Spikes/Matrix Spike Duplicates (MS/MSD):

Sample DRA09-20190117-24-56 underwent matrix spike/matrix spike duplicate (MS/MSD) analysis for the solid matrix. Sample FJD04-08-20190114-46-56 underwent MS analysis for the SPLP matrix. Recoveries of all spiked analytes were within the control limits provided with the following exception:

ANALYTE	COMPOUND	%R	AFFECTED SAMPLES	QUALIFIER FLAG	
Aroclor 1260	Solid	133	FJD04-08-20190114-46-56	JH, Aroclor 1260	

## 8. Duplicates:

## A. Laboratory Duplicate Analysis:

Sample DRA09-20190117-24-56 underwent MS/MSD analysis for the solid matrix. QC criteria are that the relative percent difference (RPD) values for the duplicate sample analysis are less than 20% for aqueous samples and less than 35% for solid samples. All criteria were met. No qualifications are placed on the data.

## B. Field Duplicate Analysis:

No field duplicate samples were submitted with this analytical package. No qualifications are placed on the data

## 9. Laboratory Control Sample (LCS)/Laboratory Control Sample Duplicate (LCSD):

The laboratory analyzed an LCS and/or LCSD and recoveries and relative percent difference (RPD) values were within the control limits provided. No qualifications are placed on the data.

### 10. Target Compound Identification, Quantitation, and Reporting Limits:

Concentrations of all reported compounds were correctly calculated.

The %D between the column results were within the acceptance limits (≤25). No qualifications are placed on the data.

Reported concentrations less than the reporting limit (RL) qualified "J" by the laboratory are qualified "JQ" to indicate that the result is less than the RL but greater than the method detection limit (MDL).

#### 11. Laboratory Contact:

No laboratory contact was required.

#### 12. Overall Assessment:

The Aroclor 1260 result in one sample was estimated due to high MS recovery.

Reported concentrations less than the RL qualified "J" by the laboratory were qualified "JQ" to indicate that the result is less than the RL but greater than the MDL.

The analytical data is acceptable for use with the qualifications listed above.

# DATA QUALITY ASSURANCE REVIEW

SITE NAME Frank J. Doy	le Salvage Removal Actio	n	
WORK ORDER NUMBER	20600.012.001.1175.01	TDD NUMBER	0001/18-175
PROJECT NUMBER		SDG NUMBER	HS19010829
Weston Solutions, Inc. (WES 20600.012.001.1175.01; SDG No. analyzed for Polynuclear Aromatic below.	HS19010829; Frank J. I	Ooyle Salvage Rem	
	SAMPLE NUM	BERS	
DRA09-20190117-24-56			
This data package was validated to USEPA National Functional Guidelines of National Functional Guidelines of Laboratory Program National Functional Functi	elines for Organic Superfu for Inorganic Superfund inctional Guidelines for H Quality Control Guidance g Times, Blanks, and V	nd Methods Data R Data Review (Janu ligh Resolution Sup for Removal Activi	deview (January, 2017), USEPA lary, 2017), USEPA Contractoristics (September, 2011), and/oi
PEVIEWER Gloria I Swit	taleki	DATE	February 8, 2010

## **Data Qualifiers**

Data Qualifier Definitions were supplied by the Office of Solid Waste and Emergency Response (September 1989) and are included in the Functional Guidelines. Data qualifiers may be combined (UJ, QJ) with the corresponding combination of meanings. Additional qualifiers may be added to provide additional, more specific information (JL, UB, QJK), modifying the meaning of the primary qualifier. Additional qualifiers utilized by WESTON are H, L, K, B, and Q.

U - The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation or detection limit, which has been adjusted for sample weight/sample volume, extraction volume, percent solids, sample dilution or other analysis specific parameters.

An additional qualifier, "B", may be appended to indicate that while the analyte was detected in the sample, the presence of the analyte may be attributable to blank contamination and the analyte is therefore considered undetected with the sample detection or quantitation limit for the analyte being elevated.

J - The analyte was analyzed for, but the associated numerical value may not be consistent with the amount actually present in the environmental sample or may not be consistent with the sample detection or quantitation limit. The value is an estimated quantity. The data should be seriously considered for decision-making and are usable for many purposes.

An additional qualifier will be appended to the "J" qualifier that indicates the bias in the reported results:

- L Low bias
- H High bias
- K Unknown bias
- Q The reported concentration is less than the sample quantitation limit for the specific analyte in the sample.

The L and H qualifier will only be employed when a single qualification is required. When more than one quality control parameter affects the analytical result and a conflict results in assigning a bias, the result will be flagged JK.

- R Quality Control indicates that data are unusable for all purposes. The analyte was analyzed for, but the presence or absence of the analyte has not been verified. Resampling and reanalysis are necessary for verification to confirm or deny the presence of an analyte.
- N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

#### PAH FRACTION EVALUATION

# 1. Analytical Method:

Samples were prepared and analyzed using the procedures specified in SW-846 Method 8270D selective ion monitoring (SIM).

# 2. Holding Time:

The samples were received within the recommended  $\leq$ 6°C NFG limit. All samples were extracted within the required holding time of less than 7 days for waters and less than 14 days for solids/wastes after collection. Analysis of the samples was conducted within 40 days of extraction. No qualifications are placed on the data.

# 3. Tuning/Performance:

DFTPP tuning of the mass spectrometer(s) was conducted at the required frequency and results were within the required criteria. No qualifications are placed on the data.

#### 4. Initial Calibration:

All individual relative response factors (RRFs) and average RRFs for the initial calibration (IC) were greater than the compound dependent (see Table 34 of National Functional Guidelines) control limits. All percent relative standard deviations (%RSDs) were less than the compound dependent (see Table 34 of National Functional Guidelines) control limits or the correlation coefficient was > 0.990. No qualifications are placed on the data.

# 5. Continuing Calibration:

All individual RRFs for the initial calibration verification (ICV) and continuing calibration (CC) standards were greater than the compound dependent (see Table 34 of National Functional Guidelines) control limits. All percent differences (%Ds) were less than the compound dependent (see Table 34 of National Functional Guidelines) control limits. No qualifications are placed on the data.

#### 6. Blanks:

# A. Laboratory Blanks:

A method blank was prepared at the required frequency of every time samples were extracted for each matrix and concentration or every 20 samples whichever is greater. Target analytes were not detected in the method at concentrations that warrant blank action. No qualifications are placed on the data.

#### B Field Blanks:

No field blank samples were submitted with this analytical package. No qualifications are placed on the data.

## 7. System Monitoring Compounds (SMC):

All recoveries of the system monitoring compounds (surrogates) were within the control limits provided. No qualifications are placed on the data.

## 8. Duplicates:

# A. Laboratory Duplicate Analysis:

No sample from this analytical package underwent matrix spike/matrix spike duplicate (MS/MSD) analysis for the solid matrix. No qualifications are placed on the data.

## B. Field Duplicate Analysis:

No field duplicate samples were submitted with this analytical package. No qualifications are placed on the data.

# 9. Matrix Spike/Matrix Spike Duplicate:

No sample from this analytical package underwent MS/MSD analysis for the solid matrix. No qualifications are placed on the data.

#### 10. Internal Standards:

Areas of the six internal standards were within the control limits of a factor of 2 (-50% to +100%) and retention times were within 30 seconds from the associated 12 hour calibration standard. No qualifications are placed on the data.

# 11. Laboratory Control Sample (LCS):

The laboratory analyzed an LCS and recoveries were within the control limits provided. No qualifications are placed on the data.

## 12. Target Compound Identification:

All target compounds reported by the laboratory met identification criteria of relative retention times (RRT) within 0.06 RRT units of the 12 hour standard and that all ions present in the standard mass spectrum were present in the sample mass spectrum and the abundance of these ions agreed within  $\pm$  20% of the standard. No qualifications are placed on the data.

#### 13. Target Compound Quantitation and Reporting Limits:

Concentrations of all reported compounds were correctly calculated.

Reported concentrations less than the reporting limit (RL) qualified "J" by the laboratory are qualified "JQ" to indicate that the result is less than the RL but greater than the method detection limit (MDL).

# 14. Laboratory Contact:

No laboratory contact was required.

#### 15. Overall Assessment

Reported concentrations less than the RL qualified "J" by the laboratory were qualified "JQ" to indicate that the result is less than the RL but greater than the MDL.

The analytical data is acceptable for use with the qualifications listed above.

# DATA QUALITY ASSURANCE REVIEW

SITE NAME	Frank J. Doy	le Salvage Removal Actio	n	
WORK ORDER	R NUMBER	20600.012.001.1175.01	TDD NUMBER	0001/18-175
PROJECT NUMBER			SDG NUMBER	HS19010829
20600.012.001.1175 analyzed for metals	5.01; SDG No. (As, Cd, Co, I	HS19010829; Frank J. Do	oyle Salvage Remo c Precipitation Lea	for Work Order Number oval Action. Three samples were aching Procedure (SPLP) metals
		SAMPLE NUM	BERS	
DRA09-20190117-2	4-56	EAS07-20190115-36-5	56 <u>FJ</u> I	D04-08-20190114-46-56
USEPA National Fu National Functional Laboratory Program (April, 2016), Qual	unctional Guide al Guidelines f an National Fu ity Assurance/9 col for Holdin	elines for Organic Superfu for Inorganic Superfund nctional Guidelines for H Quality Control Guidance g Times, Blanks, and V	nd Methods Data Data Review (Jar High Resolution Si for Removal Activ	ations were achieved, following Review (January, 2017), USEPA contracturer, 2017), USEPA Contracturer (September, 2011), and/o (April 13, 1989). Specific data
REVIEWER	Gloria J. Swi	talski	DATE	February 8, 2019

### **Data Qualifiers**

Data Qualifier Definitions were supplied by the Office of Solid Waste and Emergency Response (September 1989) and are included in the Functional Guidelines. Data qualifiers may be combined (UJ, QJ) with the corresponding combination of meanings. Additional qualifiers may be added to provide additional, more specific information (JL, UB, QJK), modifying the meaning of the primary qualifier. Additional qualifiers utilized by WESTON are H, L, K, B, and Q.

U - The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation or detection limit, which has been adjusted for sample weight/sample volume, extraction volume, percent solids, sample dilution or other analysis specific parameters.

An additional qualifier, "B", may be appended to indicate that while the analyte was detected in the sample, the presence of the analyte may be attributable to blank contamination and the analyte is therefore considered undetected with the sample detection or quantitation limit for the analyte being elevated.

J - The analyte was analyzed for, but the associated numerical value may not be consistent with the amount actually present in the environmental sample or may not be consistent with the sample detection or quantitation limit. The value is an estimated quantity. The data should be seriously considered for decision-making and are usable for many purposes.

An additional qualifier will be appended to the "J" qualifier that indicates the bias in the reported results:

- L Low bias
- H High bias
- K Unknown bias
- Q The reported concentration is less than the sample quantitation limit for the specific analyte in the sample.

The L and H qualifier will only be employed when a single qualification is required. When more than one quality control parameter affects the analytical result and a conflict results in assigning a bias, the result will be flagged JK.

- R Quality Control indicates that data are unusable for all purposes. The analyte was analyzed for, but the presence or absence of the analyte has not been verified. Resampling and reanalysis are necessary for verification to confirm or deny the presence of an analyte.
- N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

#### METALS DATA EVALUATION

#### 1. Analytical Method:

Samples were prepared and analyzed for ICP metals using the procedures specified in **SW-846 Method 6020A.** Samples were extracted for SPLP metals using the procedure specified in **SW-846 Method 1312.** 

# 2. Holding Times:

All samples met established holding time criteria of 180 days for ICP metals. No qualifications are placed on the data. All SPLP samples were extracted within the required holding time of less than 180 days for metals. No qualifications are placed on the data.

#### 3. Initial Calibration:

ICP initial calibration included a blank and five standards and initial calibration verification results fell within the control limits of 90% to 110% of the true values. No qualifications are placed on the data.

#### 4. Continuing Calibration:

All ICP results fell within the control limits of 90% to 110% of the true values. No qualifications are placed on the data.

#### 5. CRDL Standard:

All results for the CRDL standard were within the control limits of 70% to 130% of the true values or the sample results were greater than the CRDL action level. No qualifications are placed on the data.

### 6. Blanks:

## A. Laboratory Blanks:

A method blank was prepared at the required frequency of every time samples were prepared/digested for each matrix or every 20 samples whichever is greater. Target analytes were not detected in the method and calibration blanks at concentrations that warrant blank action. No qualifications are placed on the data.

#### B. Field Blanks:

No field blank samples were submitted with this analytical package. No qualifications are placed on the data.

#### 7. ICP Interference Check:

All results for the interference check sample were within the control limits of 80% to 120% of the true values. No qualifications are placed on the data.

# 8. Laboratory Control Sample (LCS):

The recoveries for the LCS were within the control limits provided. No qualifications are placed on the data.

## 9. Duplicate Sample Analysis:

# A. Laboratory Duplicate Analysis:

Sample EAS07-20190115-36-56 underwent matrix spike/matrix spike duplicate (MS/MSD) analysis for Mn & Ag for the SPLP matrix. QC criteria are that the relative percent difference (RPD) values for the duplicate sample analysis are less than 20% for aqueous samples and less than 35% for solid samples. All QC criteria were met. No qualifications are placed on the data.

## B. Field Duplicate Analysis:

No field duplicate samples were submitted with this analytical package. No qualifications are placed on the data.

#### 10. Spiked Sample Analysis:

Sample EAS07-20190115-36-56 underwent MS/MSD analysis for Mn & Ag for the SPLP matrix. The spike recoveries for the all analytes were within the 75%-125% QC recovery limits for analytes whose sample concentration did not exceed the spike concentration by a factor of 4 times or more. The post digestion spike recoveries were acceptable. No qualifications are placed on the data.

## 11. ICP Serial Dilution:

Sample EAS07-20190115-36-56 underwent serial dilution for Mn & Ag for the SPLP matrix. The percent difference (%D) values for serial dilution analysis were within the QC limits of 10% for all analytes whose concentrations were greater than 50 times their method detection limit (MDL). No qualifications are placed on the data.

## 12. Sample Quantitation and Reporting Limits:

Concentrations of all reported analytes were correctly calculated.

Reported concentrations less than the reporting limit (RL) qualified "J" by the laboratory are qualified "JQ" to indicate that the result is less than the RL but greater than the MDL.

Manganese (total) in the only sample was analyzed at a 50-fold dilution. The reporting limit for manganese in this sample was elevated as a result of the dilution performed.

# 13. Laboratory Contact

No laboratory contact was required.

### 14. Overall Assessment:

Reported concentrations less than the RL qualified "J" by the laboratory were qualified "JQ" to indicate that the result is less than the RL but greater than the MDL.

The analytical data is acceptable for use with the qualifications listed above.

Client: Project: Weston Solutions, Inc.

FJ Doyle RA/TX

Sample ID:

DRA09-20190117-24-56

Collection Date:

17-Jan-2019 14:58

**ANALYTICAL REPORT** 

WorkOrder:HS19010829 Lab ID:HS19010829-01

Matrix:Soil

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL PAHS	0.00	Method:S	W8270	N. S. San	Prep:SW3541 / 1	8-Jan-2019	Analyst: GEY
Acenaphthene	U		0.00065	0.0043	mg/Kg-dry	1	18-Jan-2019 19:42
Acenaphthylene	U		0.0013	0.0043	mg/Kg-dry	1	18-Jan-2019 19:42
Anthracene	U		0.00065	0.0043	mg/Kg-dry	1	18-Jan-2019 19:42
Benz(a)anthracene	Ū	anner menanaran an awa	0.0021	0.0043	mg/Kg-dry	1 .	18-Jan-2019 19:42
Benzo(a)pyrene	0.0019	150	0.0013	0.0043	mg/Kg-dry	1	18-Jan-2019 19:42
Benzo(b)fluoranthene	0.0022	ا بلد	0.0016	0.0043	mg/Kg-dry	1	18-Jan-2019 19:42
Benzo(g,h,i)perylene	0.0034	المد	0.00091	0.0043	mg/Kg-dry	1	18-Jan-2019 19:42
Benzo(k)fluoranthene	0.0020	ا لمد	0.0012	0.0043	mg/Kg-dry	1	18-Jan-2019 19:42
Chrysene	0.0041	لله	0.0010	0.0043	mg/Kg-dry	1	18-Jan-2019 19:42
Dibenz(a,h)anthracene	U		0.0021	. 0.0043	mg/Kg-dry	1	18-Jan-2019 19:42
Fluoranthene	0.0020	-JUS	0.0014	0.0043	mg/Kg-dry	1	18-Jan-2019 19:42
Fluorene	Ü	1.0000000000000000000000000000000000000	0.0014	0.0043	mg/Kg-dry	1	18-Jan-2019 19:42
Indeno(1,2,3-cd)pyrene	U		0.0010	0.0043	mg/Kg-dry	1	18-Jan-2019 19:42
Naphthalene	0.0021	400	0.00078	0.0043	mg/Kg-dry	1	18-Jan-2019 19:42
Phenanthrene	U	·	0.0019	0.0043	mg/Kg-dry	1	18-Jan-2019 19:42
Pyrene	0.0021	J 70	, 0.00078	0.0043	mg/Kg-dry	1	18-Jan-2019 19:42
Surr: 2-Fluorobiphenyl	68.8	- 1		43-125	%REC	1	18-Jan-2019 19:42
Surr: 4-Terphenyl-d14	79.0			32-125	%REC	1	18-Jan-2019 19:42
Surr: Nitrobenzene-d5	67.8			37-125	%REC	1	18-Jan-2019 19:42
PCBS BY SW8082A		Method:S	W8082		Prep:SW3541/36	65A / 18-Jan	2019 Analyst: JLJ
Aroclor 1016	U		0.0054	0.022	mg/Kg-dry	1	21-Jan-2019 13:49
Aroclor 1221	U		0.0072	0.022	mg/Kg-dry	1	21-Jan-2019 13:49
Aroclor 1232	U		0.0058	0.022	mg/Kg-dry	1	21-Jan-2019 13:49
Aroclor 1242	U		0.0076	0.022	mg/Kg-dry	1	21-Jan-2019 13:49
Aroclor 1248	U		0.0076	0.022	mg/Kg-dry	1	21-Jan-2019 13:49
Aroclor 1254	U		0.0061	0.022	mg/Kg-dry	1	21-Jan-2019 13:49
Aroclor 1260	0.045		0.0052	0.022	mg/Kg-dry	1	21-Jan-2019 13:49
Surr: Decachlorobiphenyl	101			54-143	%REC	1	21-Jan-2019 13:49
Surr. Tetrachloro-m-xylene	99.5			50-140	%REC	1	21-Jan-2019 13:49
METALS BY SW6020A		Method:S	W6020		Prep:SW3050A	18-Jan-2019	Analyst: JCJ
Arsenic	5.94		0.0878	0.627	mg/Kg-dry	1	18-Jan-2019 20:53
Cadmium	0.346	9 JQ	0.0339	0.627	mg/Kg-dry	1	18-Jan-2019 20:53
Cobalt	11.7	•	0.0188	0.627	mg/Kg-dry	1	18-Jan-2019 20:53
Iron	21,600		2.30	62.7	mg/Kg-dry	1	18-Jan-2019 20:53
Lead	19.0		0.0163	0.627	mg/Kg-dry	1	18-Jan-2019 20:53
Manganese	835		2.70	31.4	mg/Kg-dry	50	21-Jan-2019 15:14
MOISTURE - ASTM D2216	٨	Method:AST	TM D2216	- 12 July 1	22050004		Analyst: DFF
Percent Moisture	22.8		0.0100	0.0100	wt%	1	18-Jan-2019 11:30

Note: See Qualifiers Page for a list of qualifiers and their explanation.





Client: Project: Weston Solutions, Inc.

FJ Doyle RA/TX

Sample ID:

EAS07-20190115-36-56

Collection Date:

15-Jan-2019 13:35

**ANALYTICAL REPORT** 

WorkOrder:HS19010829 Lab ID:HS19010829-02

Matrix:Soil

ANALYSES	RESULT QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
SPLP PCBS BY SW8082A	Method:S	W1312/8082	Leache:SW1312 / 19-Jan-2019	Prep:SW3510C/3665A / 21-Ja 2019		<sup>in-</sup> Analyst: JLJ
Aroclor 1016	U	0.11	0.54	ug/L	1	21-Jan-2019 20:57
Aroclor 1221	U	0.11	0.54	ug/L	1	21-Jan-2019 20:57
Aroclor 1232	U	0.11	0.54	ug/L	1	21-Jan-2019 20:57
Aroclor 1242	U	0.11	0.54	ug/L	1	21-Jan-2019 20:57
Aroclor 1248	U	0.11	0.54	ug/L	1	21-Jan-2019 20:57
Aroclor 1254	U	0.11	0.54	ug/L	1	21-Jan-2019 20:57
Aroclor 1260	0.55	0.11	0.54	ug/L	1	21-Jan-2019 20:57
Surr: Decachlorobiphenyl	128		30-150	%REC	1	21-Jan-2019 20:57
Surr: Tetrachloro-m-xylene	115		30-150	%REC	1	21-Jan-2019 20:57
SPLP METALS BY SW6020A	Method	I:SW6020	Leache:SW1312 / 19-Jan-2019	Prep:SW3010/	A / 21-Jan-2019	Analyst: JCJ
Manganese	0.0750	0.000700	0.00500	mg/L	1	21-Jan-2019 15:44

\$ 0/8/9

Client:

Weston Solutions, Inc.

Project: Sample ID: FJ Doyle RA/TX

Collection Date:

14-Jan-2019 12:03

FJD04-08-20190114-46-56

**ANALYTICAL REPORT** 

WorkOrder:HS19010829 Lab ID:HS19010829-03

Matrix:Soil

ANALYSES	RESULT C	QUAL MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
SPLP PCBS BY SW8082A	Met	thod:SW1312/8082	Leache:SW1312 / 19-Jan-2019	Prep:SW3510	C/3665A / 21-Ja	n- Analyst: JLJ
Aroclor 1016	U	0.11	0.53	ug/L	1	21-Jan-2019 19:06
Aroclor 1221	U	0,11	0.53	ug/L	1	21-Jan-2019 19:06
Aroclor 1232	U	0.11	0.53	ug/L	1	21-Jan-2019 19:06
Aroclor 1242	U	0.11	0.53	ug/L	1	21-Jan-2019 19:06
Aroclor 1248	U	0.11	0.53	ug/L	1	21-Jan-2019 19:06
Aroclor 1254	U	0.11	0.53	ug/L	1	21-Jan-2019 19:06
Aroclor 1260	0.28	& JQH 0.11	0.53	ug/L	1	21-Jan-2019 19:06
Surr: Decachlorobiphenyl	128		30-150	%REC	1	21-Jan-2019 19:06
Surr: Tetrachloro-m-xylene	117		30-150	%REC	1	21-Jan-2019 19:06
SPLP METALS BY SW6020A	\$ 100 m	Method:SW6020	Leache:SW1312 / 19-Jan-2019	Prep:SW3010	A / 21-Jan-2019	Analyst: JCJ
Manganese	0.0752	0.000700	0.00500	mg/L	1	21-Jan-2019 15:55
Silver	U	0.000200	0.00500	mg/L	1	21-Jan-2019 15:55





# DATA QUALITY ASSURANCE REVIEW

SITE NAME Frank J. Doy	le Salvage Removal Actio	n			
WORK ORDER NUMBER	20600.012.001.1175.01	TDD NUMBER	0001/18-175		
PROJECT NUMBER		SDG NUMBER	HS19010917		
Weston Solutions, Inc. (WES 20600.012.001.1175.01; SDG No. analyzed for Polychlorinated Biphebelow.	HS19010917; Frank J. I	Ooyle Salvage Rem			
	SAMPLE NUM	BERS			
FJD05-01-20190118-24-56	<u> </u>				
	_				
This data package was validated to USEPA National Functional Guide National Functional Guidelines of Laboratory Program National Fu (April, 2016), Quality Assurance/9 the Regional Protocol for Holdin qualifications are listed in the follows	elines for Organic Superfu for Inorganic Superfund inctional Guidelines for H Quality Control Guidance g Times, Blanks, and V	nd Methods Data R Data Review (Janu High Resolution Sup for Removal Activi	Review (January, 2017), USEPA uary, 2017), USEPA Contract perfund Methods Data Review ities (September, 2011), and/o		
DEVIEWED Gloria I Swit	taleki	DATE	February 8, 2010		

## **Data Qualifiers**

Data Qualifier Definitions were supplied by the Office of Solid Waste and Emergency Response (September 1989) and are included in the Functional Guidelines. Data qualifiers may be combined (UJ, QJ) with the corresponding combination of meanings. Additional qualifiers may be added to provide additional, more specific information (JL, UB, QJK), modifying the meaning of the primary qualifier. Additional qualifiers utilized by WESTON are H, L, K, B, and Q.

U - The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation or detection limit, which has been adjusted for sample weight/sample volume, extraction volume, percent solids, sample dilution or other analysis specific parameters.

An additional qualifier, "B", may be appended to indicate that while the analyte was detected in the sample, the presence of the analyte may be attributable to blank contamination and the analyte is therefore considered undetected with the sample detection or quantitation limit for the analyte being elevated.

J - The analyte was analyzed for, but the associated numerical value may not be consistent with the amount actually present in the environmental sample or may not be consistent with the sample detection or quantitation limit. The value is an estimated quantity. The data should be seriously considered for decision-making and are usable for many purposes.

An additional qualifier will be appended to the "J" qualifier that indicates the bias in the reported results:

- L Low bias
- H High bias
- K Unknown bias
- Q The reported concentration is less than the sample quantitation limit for the specific analyte in the sample.

The L and H qualifier will only be employed when a single qualification is required. When more than one quality control parameter affects the analytical result and a conflict results in assigning a bias, the result will be flagged JK.

- R Quality Control indicates that data are unusable for all purposes. The analyte was analyzed for, but the presence or absence of the analyte has not been verified. Resampling and reanalysis are necessary for verification to confirm or deny the presence of an analyte.
- N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

#### PCB FRACTION EVALUATION

# 1. Analytical Method:

Samples were prepared and analyzed for PCBs using the procedures specified in SW-846 Method 8082A.

#### 2. Holding Time:

The samples were received within the recommended ≤6°C NFG limit. All samples were extracted within the required holding time of less than 1 year after collection. Analysis of the samples was conducted within 40 days of extraction. No qualifications are placed on the data.

## 3. Initial Calibration:

The correlation coefficient of the multipoint initial calibration was greater than or equal to 0.995 or the percent relative standard deviation (%RSD) was less than or equal to 20%. No qualifications are placed on the data.

## 4. Continuing Calibration:

The continuing calibration check was analyzed at the required frequency and met recovery requirements of 75%-125% [percent difference (%D) was less than 25%]. No qualifications are placed on the data.

#### 5. Blanks:

#### A. Laboratory Blanks:

A method blank was prepared at the required frequency of every time samples were extracted for each matrix and concentration or every 20 samples whichever is greater. No target analytes were detected in the method blanks at concentrations that warrant blank action. No qualifications are placed on the data.

## B. Field Blanks:

No field blank samples were submitted with this analytical package. No qualifications are placed on the data.

#### 6. Surrogates:

All recoveries of the surrogates were within the control limits provided. No qualifications are placed on the data.

# 7. Matrix Spikes/Matrix Spike Duplicates (MS/MSD):

Sample FJD05-01-20190118-24-56 underwent MS/MSD analysis for the solid matrix. Recoveries of all spiked analytes were within the control limits provided for analytes whose sample concentration did not exceed the spike concentration by a factor of four times or more. No qualifications are placed on the data.

### 8. Duplicates:

### A. Laboratory Duplicate Analysis:

Sample FJD05-01-20190118-24-56 underwent MS/MSD analysis for the solid matrix. QC criteria are that the relative percent difference (RPD) values for the duplicate sample analysis are less than 20% for aqueous samples and less than 35% for solid samples. All QC criteria were met. No qualifications are placed on the data.

### B. Field Duplicate Analysis:

No field duplicate samples were submitted with this analytical package. No qualifications are placed on the data.

### 9. Laboratory Control Sample (LCS):

The laboratory analyzed an LCS and recoveries were within the control limits provided. No qualifications are placed on the data.

10. Target Compound Identification, Quantitation, and Reporting Limits:

The only sample was ND for all target compounds.

#### 11. Laboratory Contact:

No laboratory contact was required.

#### 12. Overall Assessment:

The analytical data is acceptable for use without qualification.

# DATA QUALITY ASSURANCE REVIEW

SITE NAME Frank J. Doy	le Salvage Removal Actio	n	
WORK ORDER NUMBER	20600.012.001.1175.01	TDD NUMBER	0001/18-175
PROJECT NUMBER		SDG NUMBER	HS19010917
Weston Solutions, Inc. (WES' 20600.012.001.1175.01; SDG No. analyzed for Polynuclear Aromatic below.	HS19010917; Frank J. I	Ooyle Salvage Rem	
	SAMPLE NUM	BERS	
FJD05-01-20190118-24-56	<u> </u>		
This data package was validated to USEPA National Functional Guidelines of Laboratory Program National Fu (April, 2016), Quality Assurance/Qualifications are listed in the follows	elines for Organic Superfu for Inorganic Superfund nctional Guidelines for H Quality Control Guidance g Times, Blanks, and Vo	nd Methods Data R Data Review (Janu ligh Resolution Sup for Removal Activi	leview (January, 2017), USEPA lary, 2017), USEPA Contractoristics (September, 2011), and/o
PEVIEWED Gloria I Swit	talski	DATE	February 8, 2010

### **Data Qualifiers**

Data Qualifier Definitions were supplied by the Office of Solid Waste and Emergency Response (September 1989) and are included in the Functional Guidelines. Data qualifiers may be combined (UJ, QJ) with the corresponding combination of meanings. Additional qualifiers may be added to provide additional, more specific information (JL, UB, QJK), modifying the meaning of the primary qualifier. Additional qualifiers utilized by WESTON are H, L, K, B, and Q.

U - The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation or detection limit, which has been adjusted for sample weight/sample volume, extraction volume, percent solids, sample dilution or other analysis specific parameters.

An additional qualifier, "B", may be appended to indicate that while the analyte was detected in the sample, the presence of the analyte may be attributable to blank contamination and the analyte is therefore considered undetected with the sample detection or quantitation limit for the analyte being elevated.

J - The analyte was analyzed for, but the associated numerical value may not be consistent with the amount actually present in the environmental sample or may not be consistent with the sample detection or quantitation limit. The value is an estimated quantity. The data should be seriously considered for decision-making and are usable for many purposes.

An additional qualifier will be appended to the "J" qualifier that indicates the bias in the reported results:

- L Low bias
- H High bias
- K Unknown bias
- Q The reported concentration is less than the sample quantitation limit for the specific analyte in the sample.

The L and H qualifier will only be employed when a single qualification is required. When more than one quality control parameter affects the analytical result and a conflict results in assigning a bias, the result will be flagged JK.

- R Quality Control indicates that data are unusable for all purposes. The analyte was analyzed for, but the presence or absence of the analyte has not been verified. Resampling and reanalysis are necessary for verification to confirm or deny the presence of an analyte.
- N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

#### PAH FRACTION EVALUATION

### 1. Analytical Method:

Samples were prepared and analyzed using the procedures specified in SW-846 Method 8270D selective ion monitoring (SIM).

### 2. Holding Time:

The samples were received within the recommended  $\leq$ 6°C NFG limit. All samples were extracted within the required holding time of less than 7 days for waters and less than 14 days for solids/wastes after collection. Analysis of the samples was conducted within 40 days of extraction. No qualifications are placed on the data.

### 3. Tuning/Performance:

DFTPP tuning of the mass spectrometer(s) was conducted at the required frequency and results were within the required criteria. No qualifications are placed on the data.

#### 4. Initial Calibration:

All individual relative response factors (RRFs) and average RRFs for the initial calibration (IC) were greater than the compound dependent (see Table 34 of National Functional Guidelines) control limits. All percent relative standard deviations (%RSDs) were less than the compound dependent (see Table 34 of National Functional Guidelines) control limits or the correlation coefficient was > 0.990. No qualifications are placed on the data.

### 5. Continuing Calibration:

All individual RRFs for the initial calibration verification (ICV) and continuing calibration (CC) standards were greater than the compound dependent (see Table 34 of National Functional Guidelines) control limits. All percent differences (%Ds) were less than the compound dependent (see Table 34 of National Functional Guidelines) control limits. No qualifications are placed on the data.

#### 6. Blanks:

### A. Laboratory Blanks:

A method blank was prepared at the required frequency of every time samples were extracted for each matrix and concentration or every 20 samples whichever is greater. Target analytes were not detected in the method at concentrations that warrant blank action. No qualifications are placed on the data.

#### B. Field Blanks:

No field blank samples were submitted with this analytical package. No qualifications are placed on the data.

#### 7. System Monitoring Compounds (SMC):

All recoveries of the system monitoring compounds (surrogates) were within the control limits provided. No qualifications are placed on the data.

### 8. Duplicates:

### A. Laboratory Duplicate Analysis:

Sample FJD05-01-20190118-24-56 underwent matrix spike/matrix spike duplicate (MS/MSD) analysis for the solid matrix. QC criteria are that the relative percent difference (RPD) values for the duplicate sample analysis are less than 20% for aqueous samples and less than 35% for solid samples. All QC criteria were met. No qualifications are placed on the data.

### B. Field Duplicate Analysis:

No field duplicate samples were submitted with this analytical package. No qualifications are placed on the data.

### 9. Matrix Spike/Matrix Spike Duplicate:

Sample FJD05-01-20190118-24-56 underwent MS/MSD analysis for the solid matrix. Recoveries of all spiked analytes were within the control limits provided in both the matrix spike and matrix spike duplicate. No qualifications are placed on the data.

#### 10. Internal Standards:

Areas of the six internal standards were within the control limits of a factor of 2 (-50% to +100%) and retention times were within 30 seconds from the associated 12 hour calibration standard. No qualifications are placed on the data.

### 11. Laboratory Control Sample (LCS):

The laboratory analyzed an LCS and recoveries were within the control limits provided. No qualifications are placed on the data.

#### 12. Target Compound Identification:

All target compounds reported by the laboratory met identification criteria of relative retention times (RRT) within 0.06 RRT units of the 12 hour standard and that all ions present in the standard mass spectrum were present in the sample mass spectrum and the abundance of these ions agreed within  $\pm$  20% of the standard. No qualifications are placed on the data.

### 13. Target Compound Quantitation and Reporting Limits:

Concentrations of all reported compounds were correctly calculated.

Reported concentrations less than the reporting limit (RL) qualified "J" by the laboratory are qualified "JQ" to indicate that the result is less than the RL but greater than the method detection limit (MDL).

#### 14. Laboratory Contact:

No laboratory contact was required.

## 15. Overall Assessment

Reported concentrations less than the RL qualified "J" by the laboratory were qualified "JQ" to indicate that the result is less than the RL but greater than the MDL.

The analytical data is acceptable for use with the qualifications listed above.

# DATA QUALITY ASSURANCE REVIEW

SITE NAME	Frank J. Doyl	e Salvage Re	emoval Actio	n				
WORK ORDE	R NUMBER	20600.012.	001.1175.01	TDD NU	MBER	0001/18-17	75	
PROJECT NUM	MBER			SDG NU	MBER	HS19010917		
Weston Solutions, 20600.012.001.1173 analyzed for metals	5.01; SDG No.	HS1901091	7; Frank J. I	Doyle Salv	vage Remo	val Action.	One san	nple was
		SA	MPLE NUM	BERS				
FJD05-01-20190118	3-24-56							
	2.00							
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This data package very USEPA National Functional Laboratory Program (April, 2016), Qual the Regional Proto qualifications are list	unctional Guide al Guidelines f m National Fu ity Assurance/Q col for Holdin	lines for Orgor Inorganic for Inorganic factional Gui Quality Conti g Times, Bl	ganic Superfu Superfund delines for F rol Guidance anks, and V	nd Method Data Rev High Resol for Remo	ds Data Review (Janua lution Supe val Activiti	view (Janua ry, 2017), erfund Meth es (Septem	ry, 2017) <i>USEPA</i> ods <i>Data</i> ber, 2011	, USEPA Contract Review ), and/or
REVIEWER	Gloria J. Swit	alski			DATE	February	8, 2019	

### **Data Qualifiers**

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U - The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation or detection limit, which has been adjusted for sample weight/sample volume, extraction volume, percent solids, sample dilution or other analysis specific parameters.

An additional qualifier, "B", may be appended to indicate that while the analyte was detected in the sample, the presence of the analyte may be attributable to blank contamination and the analyte is therefore considered undetected with the sample detection or quantitation limit for the analyte being elevated.

J - The analyte was analyzed for, but the associated numerical value may not be consistent with the amount actually present in the environmental sample or may not be consistent with the sample detection or quantitation limit. The value is an estimated quantity. The data should be seriously considered for decision-making and are usable for many purposes.

An additional qualifier will be appended to the "J" qualifier that indicates the bias in the reported results:

- L Low bias
- H High bias
- K Unknown bias
- Q The reported concentration is less than the sample quantitation limit for the specific analyte in the sample.

The L and H qualifier will only be employed when a single qualification is required. When more than one quality control parameter affects the analytical result and a conflict results in assigning a bias, the result will be flagged JK.

- R Quality Control indicates that data are unusable for all purposes. The analyte was analyzed for, but the presence or absence of the analyte has not been verified. Resampling and reanalysis are necessary for verification to confirm or deny the presence of an analyte.
- N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

#### METALS DATA EVALUATION

#### 1. Analytical Method:

Samples were prepared and analyzed for ICP metals using the procedures specified in SW-846 Method 6020A.

### 2. Holding Times:

All samples met established holding time criteria of 180 days for ICP metals. No qualifications are placed on the data.

#### 3. Initial Calibration:

ICP initial calibration included a blank and five standards and initial calibration verification results fell within the control limits of 90% to 110% of the true values. No qualifications are placed on the data.

### 4. Continuing Calibration:

All ICP results fell within the control limits of 90% to 110% of the true values. No qualifications are placed on the data.

#### 5. CRDL Standard:

All results for the CRDL standard were within the control limits of 70% to 130% of the true values or the sample results were greater than the CRDL action level. No qualifications are placed on the data.

#### 6. Blanks:

#### A. Laboratory Blanks:

A method blank was prepared at the required frequency of every time samples were prepared/digested for each matrix or every 20 samples whichever is greater. Target analytes were not detected in the method and calibration blanks at concentrations that warrant blank action. No qualifications are placed on the data.

#### B. Field Blanks:

No field blank samples were submitted with this analytical package. No qualifications are placed on the data.

#### 7. ICP Interference Check:

All results for the interference check sample were within the control limits of 80% to 120% of the true values. No qualifications are placed on the data.

#### 8. Laboratory Control Sample (LCS):

The recoveries for the LCS were within the control limits provided. No qualifications are placed on the data.

### 9. Duplicate Sample Analysis:

### A. Laboratory Duplicate Analysis:

Sample FJD05-01-20190118-24-56 underwent matrix spike/matrix spike duplicate (MS/MSD) analysis for Mn for the SPLP matrix. QC criteria are that the relative percent difference (RPD) values for the duplicate sample analysis are less than 20% for aqueous samples and less than 35% for solid samples. All QC criteria were met. No qualifications are placed on the data.

### B. Field Duplicate Analysis:

No field duplicate samples were submitted with this analytical package. No qualifications are placed on the data.

#### 10. Spiked Sample Analysis:

Sample FJD05-01-20190118-24-56 underwent MS/MSD analysis for Mn for the SPLP matrix. The spike recoveries for the all analytes were within the 75%-125% QC recovery limits for analytes whose sample concentration did not exceed the spike concentration by a factor of 4 times or more. The post digestion spike recoveries were acceptable. No qualifications are placed on the data.

#### 11. ICP Serial Dilution:

Sample FJD05-01-20190118-24-56 underwent serial dilution for Mn for the SPLP matrix. The percent difference (%D) values for serial dilution analysis were within the QC limits of 10% for all analytes whose concentrations were greater than 50 times their method detection limit (MDL). No qualifications are placed on the data.

### 12. Sample Quantitation and Reporting Limits:

Concentrations of all reported analytes were correctly calculated.

Reported concentrations less than the reporting limit (RL) qualified "J" by the laboratory are qualified "JQ" to indicate that the result is less than the RL but greater than the method detection limit (MDL).

Manganese in the only sample was analyzed at a 50-fold dilution. The reporting limit for manganese in this sample was elevated as a result of the dilution performed.

#### 13. Laboratory Contact

No laboratory contact was required.

#### 14. Overall Assessment:

Reported concentrations less than the RL qualified "J" by the laboratory were qualified "JQ" to indicate that the result is less than the RL but greater than the MDL.

The analytical data is acceptable for use with the qualifications listed above.

Client: Project: Weston Solutions, Inc.

FJ Doyle RA/TX

Sample ID:

FJD05-01-20190118-24-56

Collection Date:

18-Jan-2019 12:12

**ANALYTICAL REPORT** 

WorkOrder:HS19010917 Lab ID:HS19010917-01

Matrix:Soil

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL PAHS		Method:SV	V8270		Prep SW3541 / 2	1-Jan-2019	Analyst: GEY
Acenaphthene	U		0.00061	0.0040	mg/Kg-dry	1	21-Jan-2019 17:53
Acenaphthylene	Ü	***************************************	0.0012	0.0040	mg/Kg-dry	1	21-Jan-2019 17:53
Anthracene	U	(	0.00061	0.0040	mg/Kg-dry	1	21-Jan-2019 17:53
Benz(a)anthracene	U		0.0019	0.0040	mg/Kg-dry	1	21-Jan-2019 17:53
Benzo(a)pyrene	U		0.0012	0.0040	mg/Kg-dry	1	21-Jan-2019 17:53
Benzo(b)fluoranthene	U	000000 00.000 00.00 - de 000000 e-c00	0.0015	0.0040	mg/Kg-dry	1	21-Jan-2019 17:53
Benzo(g,h,i)perylene	U	(	0.00085	0.0040	mg/Kg-dry	1	21-Jan-2019 17:53
Benzo(k)fluoranthene	U	managani i managani ma managani ma	0.0011	0.0040	mg/Kg-dry	1	21-Jan-2019 17:53
Chrysene	U	(	0.00097	0.0040	mg/Kg-dry	1	21-Jan-2019 17:53
Dibenz(a,h)anthracene	U		0.0019	0.0040	mg/Kg-dry	1	21-Jan-2019 17:53
Fluoranthene	U		0.0013	0.0040	mg/Kg-dry	1	21-Jan-2019 17:53
Fluorene	U		0.0013	0.0040	mg/Kg-dry	1	21-Jan-2019 17:53
Indeno(1,2,3-cd)pyrene	U	(	0.00097	0.0040	mg/Kg-dry	1	21-Jan-2019 17:53
Naphthalene	0.0021	450	0.00073	0.0040	mg/Kg-dry	1	21-Jan-2019 17:53
Phenanthrene	U		0.0018	0.0040	mg/Kg-dry	1	21-Jan-2019 17:53
Pyrene	Ü		0.00073	0.0040	mg/Kg-dry	1	21-Jan-2019 17:53
Surr: 2-Fluorobiphenyl	65.3			43-125	%REC	1	21-Jan-2019 17:53
Surr: 4-Terphenyl-d14	68.3		a and governous and relative and the	32-125	%REC	1	21-Jan-2019 17:53
Surr: Nitrobenzene-d5	69.4			37-125	%REC	1	21-Jan-2019 17:53
PCBS BY SW8082A		Method:SV	V8082		Prep:SW3541/36	65A / 21-Jan-	2019 Analyst: JLJ
Aroclor 1016	U	1	0.0051	0.020	mg/Kg-dry	1	22-Jan-2019 05:10
Aroclor 1221	U		0.0068	0.020	mg/Kg-dry	1	22-Jan-2019 05:10
Aroclor 1232	U		0.0055	0.020	mg/Kg-dry	1	22-Jan-2019 05:10
Aroclor 1242	U		0.0072	0.020	mg/Kg-dry	1	22-Jan-2019 05:10
Aroclor 1248	U		0.0072	0.020	mg/Kg-dry	1	22-Jan-2019 05:10
Aroclor 1254	U		0.0057	0.020	mg/Kg-dry	1	22-Jan-2019 05:10
Aroclor 1260	U		0.0049	0.020	mg/Kg-dry	1	22-Jan-2019 05:10
Surr: Decachlorobiphenyl	106			54-143	%REC	1	22-Jan-2019 05:10
Surr: Tetrachloro-m-xylene	105			50-140	%REC	1	22-Jan-2019 05:10
METALS BY SW6020A	a programma	Method:SV	V6020	A CONTRACTOR OF THE CONTRACTOR	Prep:SW3050A /	21-Jan-2019	Analyst: JCJ
Arsenic	15.6		0.0796	0.568	mg/Kg-dry	1	22-Jan-2019 17:09
Cadmium	0.310	450	0.0307	0.568	mg/Kg-dry	1	22-Jan-2019 17:09
Cobalt	5.26	•	0.0171	0.568	mg/Kg-dry	1	22-Jan-2019 17:09
ron	11,400	enemono con conserver se conserve se conserve se destinación e	2.08	56.8	mg/Kg-dry	1	22-Jan-2019 17:09
Lead	7.19		0.0148	0.568	mg/Kg-dry	1	22-Jan-2019 17:09
Manganese	986	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	2.44	28.4	mg/Kg-dry	50	22-Jan-2019 17:46
MOISTURE - ASTM D2216	M	ethod:ASTI	VI D2216				Analyst: DFF

Note: See Qualifiers Page for a list of qualifiers and their explanation.



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2/8/12

# DATA QUALITY ASSURANCE REVIEW

SITE NAME	Frank J. Doy	le Salvage Removal Actio	n	
WORK ORDEI	R NUMBER	20600.012.001.1175.01	TDD NUMBER	0001/18-175
PROJECT NUMBER			SDG NUMBER	HS19011054
20600.012.001.117	5.01; SDG No.	HS19011054; Frank J. D	oyle Salvage Remo	for Work Order Numberval Action. Two samples werntal. Sample numbers are listed
		SAMPLE NUM	BERS	
FJD04-05-20190122	2-36-56	FJD04-06-20190122-3	6-56	
USEPA National Functional National Functional Laboratory Program (April, 2016), Qual	unctional Guide al Guidelines j m National Fu tity Assurance/ col for Holdin	elines for Organic Superfi for Inorganic Superfund anctional Guidelines for I Quality Control Guidance ag Times, Blanks, and V	and Methods Data R Data Review (Janu High Resolution Sup for Removal Active	ations were achieved, following deview (January, 2017), USEPA Contractions (September, 2011), and/office (September, 2011), and/office (April 13, 1989). Specific dat
REVIEWER	Gloria J. Swi	talski	DATE	February 12, 2019

### **Data Qualifiers**

Data Qualifier Definitions were supplied by the Office of Solid Waste and Emergency Response (September 1989) and are included in the Functional Guidelines. Data qualifiers may be combined (UJ, QJ) with the corresponding combination of meanings. Additional qualifiers may be added to provide additional, more specific information (JL, UB, QJK), modifying the meaning of the primary qualifier. Additional qualifiers utilized by WESTON are H, L, K, B, and Q.

U - The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation or detection limit, which has been adjusted for sample weight/sample volume, extraction volume, percent solids, sample dilution or other analysis specific parameters.

An additional qualifier, "B", may be appended to indicate that while the analyte was detected in the sample, the presence of the analyte may be attributable to blank contamination and the analyte is therefore considered undetected with the sample detection or quantitation limit for the analyte being elevated.

J - The analyte was analyzed for, but the associated numerical value may not be consistent with the amount actually present in the environmental sample or may not be consistent with the sample detection or quantitation limit. The value is an estimated quantity. The data should be seriously considered for decision-making and are usable for many purposes.

An additional qualifier will be appended to the "J" qualifier that indicates the bias in the reported results:

- L Low bias
- H High bias
- K Unknown bias
- Q The reported concentration is less than the sample quantitation limit for the specific analyte in the sample.

The L and H qualifier will only be employed when a single qualification is required. When more than one quality control parameter affects the analytical result and a conflict results in assigning a bias, the result will be flagged JK.

- R Quality Control indicates that data are unusable for all purposes. The analyte was analyzed for, but the presence or absence of the analyte has not been verified. Resampling and reanalysis are necessary for verification to confirm or deny the presence of an analyte.
- N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

#### PCB FRACTION EVALUATION

### 1. Analytical Method:

Samples were prepared and analyzed for PCBs using the procedures specified in SW-846 Method 8082A.

#### 2. Holding Time:

The samples were received within the recommended ≤6°C NFG limit. All samples were extracted within the required holding time of less than 1 year after collection. Analysis of the samples was conducted within 40 days of extraction. No qualifications are placed on the data. Sample FJD04-05-20190122-36-56 was reextracted and re-analyzed for Aroclor 1242 due to laboratory contamination in the original extract. No qualifications are placed on the data.

#### 3. Initial Calibration:

The correlation coefficient of the multipoint initial calibration was greater than or equal to 0.995 or the percent relative standard deviation (%RSD) was less than or equal to 20%. No qualifications are placed on the data.

### 4. Continuing Calibration:

The continuing calibration check was analyzed at the required frequency and met recovery requirements of 75%-125% [percent difference (%D) was less than 25%]. No qualifications are placed on the data.

#### 5. Blanks:

#### A. Laboratory Blanks:

A method blank was prepared at the required frequency of every time samples were extracted for each matrix and concentration or every 20 samples whichever is greater. No target analytes were detected in the method blanks at concentrations that warrant blank action. No qualifications are placed on the data.

#### B. Field Blanks:

No field blank samples were submitted with this analytical package. No qualifications are placed on the data.

#### 6. Surrogates:

All recoveries of the surrogates were within the control limits provided. No qualifications are placed on the data.

### 7. Matrix Spikes/Matrix Spike Duplicates (MS/MSD):

Sample FJD04-06-20190122-36-56 underwent MS/MSD analysis for the solid matrix. Recoveries of all spiked analytes were within the control limits provided for analytes whose sample concentration did not exceed the spike concentration by a factor of four times or more. No qualifications are placed on the data.

### 8. Duplicates:

### A. Laboratory Duplicate Analysis:

Sample FJD04-06-20190122-36-56 underwent MS/MSD analysis for the solid matrix. QC criteria are that the relative percent difference (RPD) values for the duplicate sample analysis are less than 20% for aqueous samples and less than 35% for solid samples. All QC criteria were met. No qualifications are placed on the data.

### B. Field Duplicate Analysis:

No field duplicate samples were submitted with this analytical package. No qualifications are placed on the data.

### 9. Laboratory Control Sample (LCS):

The laboratory analyzed an LCS and recoveries were within the control limits provided. No qualifications are placed on the data.

#### 10. Target Compound Identification, Quantitation, and Reporting Limits:

Concentrations of all reported compounds were correctly calculated.

The %D between the column results were within the acceptance limits (≤25). No qualifications are placed on the data.

One PCB sample was analyzed at a dilution for Aroclor 1260. The reporting limit for Aroclor 1260 in this sample was elevated as a result of the dilution performed.

#### 11. Laboratory Contact:

No laboratory contact was required.

#### 12. Overall Assessment:

The analytical data is acceptable for use without qualification.

# DATA QUALITY ASSURANCE REVIEW

SITE NAME Frank J. Doy	le Salvage Removal Actio	n	•
WORK ORDER NUMBER	20600.012.001.1175.01	TDD NUMBER	0001/18-175
PROJECT NUMBER		SDG NUMBER	HS19011054
Weston Solutions, Inc. (WES 20600.012.001.1175.01; SDG No. analyzed for Polynuclear Aromatic below.	HS19011054; Frank J. D	oyle Salvage Remo	
	SAMPLE NUM	BERS	
FJD04-05-20190122-36-56	FJD04-06-20190122-3	6-56	
This data package was validated to USEPA National Functional Guidelines of Laboratory Program National Fu (April, 2016), Quality Assurance/9 the Regional Protocol for Holdin qualifications are listed in the follows:	elines for Organic Superfu for Inorganic Superfund inctional Guidelines for H Quality Control Guidance g Times, Blanks, and V	nd Methods Data R Data Review (Janu High Resolution Sup for Removal Activi	Peview (January, 2017), USEPA Lary, 2017), USEPA Contractor perfund Methods Data Reviev Stities (September, 2011), and/o
REVIEWER Gloria J. Swi	talski	DATE	February 12, 2019

### **Data Qualifiers**

Data Qualifier Definitions were supplied by the Office of Solid Waste and Emergency Response (September 1989) and are included in the Functional Guidelines. Data qualifiers may be combined (UJ, QJ) with the corresponding combination of meanings. Additional qualifiers may be added to provide additional, more specific information (JL, UB, QJK), modifying the meaning of the primary qualifier. Additional qualifiers utilized by WESTON are H, L, K, B, and Q.

U - The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation or detection limit, which has been adjusted for sample weight/sample volume, extraction volume, percent solids, sample dilution or other analysis specific parameters.

An additional qualifier, "B", may be appended to indicate that while the analyte was detected in the sample, the presence of the analyte may be attributable to blank contamination and the analyte is therefore considered undetected with the sample detection or quantitation limit for the analyte being elevated.

J - The analyte was analyzed for, but the associated numerical value may not be consistent with the amount actually present in the environmental sample or may not be consistent with the sample detection or quantitation limit. The value is an estimated quantity. The data should be seriously considered for decision-making and are usable for many purposes.

An additional qualifier will be appended to the "J" qualifier that indicates the bias in the reported results:

- L Low bias
- H High bias
- K Unknown bias
- Q The reported concentration is less than the sample quantitation limit for the specific analyte in the sample.

The L and H qualifier will only be employed when a single qualification is required. When more than one quality control parameter affects the analytical result and a conflict results in assigning a bias, the result will be flagged JK.

- R Quality Control indicates that data are unusable for all purposes. The analyte was analyzed for, but the presence or absence of the analyte has not been verified. Resampling and reanalysis are necessary for verification to confirm or deny the presence of an analyte.
- N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

#### PAH FRACTION EVALUATION

### 1. Analytical Method:

Samples were prepared and analyzed using the procedures specified in SW-846 Method 8270D selective ion monitoring (SIM).

### 2. Holding Time:

The samples were received within the recommended  $\leq$ 6°C NFG limit. All samples were extracted within the required holding time of less than 7 days for waters and less than 14 days for solids/wastes after collection. Analysis of the samples was conducted within 40 days of extraction. No qualifications are placed on the data.

### 3. Tuning/Performance:

DFTPP tuning of the mass spectrometer(s) was conducted at the required frequency and results were within the required criteria. No qualifications are placed on the data.

#### 4. Initial Calibration:

All individual relative response factors (RRFs) and average RRFs for the initial calibration (IC) were greater than the compound dependent (see Table 34 of National Functional Guidelines) control limits. All percent relative standard deviations (%RSDs) were less than the compound dependent (see Table 34 of National Functional Guidelines) control limits or the correlation coefficient was > 0.990. No qualifications are placed on the data.

### 5. Continuing Calibration:

All individual RRFs for the initial calibration verification (ICV) and continuing calibration (CC) standards were greater than the compound dependent (see Table 34 of National Functional Guidelines) control limits. All percent differences (%Ds) were less than the compound dependent (see Table 34 of National Functional Guidelines) control limits. No qualifications are placed on the data.

#### 6. Blanks:

### A. Laboratory Blanks:

A method blank was prepared at the required frequency of every time samples were extracted for each matrix and concentration or every 20 samples whichever is greater. Target analytes were not detected in the method at concentrations that warrant blank action. No qualifications are placed on the data.

#### B. Field Blanks:

No field blank samples were submitted with this analytical package. No qualifications are placed on the data.

#### 7. System Monitoring Compounds (SMC):

All recoveries of the system monitoring compounds (surrogates) were within the control limits provided. No qualifications are placed on the data.

### 8. Duplicates:

### A. Laboratory Duplicate Analysis:

Sample FJD04-05-20190122-36-56 underwent matrix spike/matrix spike duplicate (MS/MSD) analysis for the solid matrix. QC criteria are that the relative percent difference (RPD) values for the duplicate sample analysis are less than 20% for aqueous samples and less than 35% for solid samples. All QC criteria were met. No qualifications are placed on the data.

### B. Field Duplicate Analysis:

No field duplicate samples were submitted with this analytical package. No qualifications are placed on the data.

### 9. Matrix Spike/Matrix Spike Duplicate:

Sample FJD04-05-20190122-36-56 underwent MS/MSD analysis for the solid matrix. Recoveries of all spiked analytes were within the control limits provided in both the matrix spike and matrix spike duplicate with the following exceptions:

ANALYTE	MATRIX	%R/%R	QC LIMITS	AFFECTED SAMPLES	QUALIFIER FLAG
Acenaphthene	Solid	44.1/OK	50-120%	FJD04-05-20190122-36-56	UJ, acenaphthene

#### 10. Internal Standards:

Areas of the six internal standards were within the control limits of a factor of 2 (-50% to +100%) and retention times were within 30 seconds from the associated 12 hour calibration standard. No qualifications are placed on the data.

### 11. Laboratory Control Sample (LCS):

The laboratory analyzed an LCS and recoveries were within the control limits provided. No qualifications are placed on the data.

### 12. Target Compound Identification:

All target compounds reported by the laboratory met identification criteria of relative retention times (RRT) within 0.06 RRT units of the 12 hour standard and that all ions present in the standard mass spectrum were present in the sample mass spectrum and the abundance of these ions agreed within  $\pm$  20% of the standard. No qualifications are placed on the data.

#### 13. Target Compound Quantitation and Reporting Limits:

Concentrations of all reported compounds were correctly calculated.

Reported concentrations less than the reporting limit (RL) qualified "J" by the laboratory are qualified "JQ" to indicate that the result is less than the RL but greater than the method detection limit (MDL).

## 14. Laboratory Contact:

No laboratory contact was required.

### 15. Overall Assessment

The acenaphthene result in one sample was estimated due to low MS recovery.

Reported concentrations less than the RL qualified "J" by the laboratory were qualified "JQ" to indicate that the result is less than the RL but greater than the MDL.

The analytical data is acceptable for use with the qualifications listed above.

# DATA QUALITY ASSURANCE REVIEW

SITE NAME	Frank J. Doy	le Salvage Removal Actio	n	
WORK ORDER	R NUMBER	20600.012.001.1175.01	TDD NUMBER	0001/18-175
PROJECT NUM	MBER		SDG NUMBER	HS19011054
20600.012.001.1175	5.01; SDG No.	HS19011054; Frank J. D	oyle Salvage Remo	for Work Order Number val Action. Two samples were numbers are listed below.
		SAMPLE NUM	BERS	
FJD04-05-20190122	-36-56	FJD04-06-20190122-3	6-56	
		-		
USEPA National Fu National Functiona Laboratory Program (April, 2016), Quali	inctional Guide l Guidelines f n National Fu ity Assurance/Ç col for Holdin	clines for Organic Superfuor Inorganic Superfund nctional Guidelines for I Quality Control Guidance Times, Blanks, and V	ind Methods Data R Data Review (Janu High Resolution Sup for Removal Activi	tions were achieved, following eview (January, 2017), USEPA arry, 2017), USEPA Contract perfund Methods Data Review ties (September, 2011), and/or April 13, 1989). Specific data
REVIEWER	Gloria J. Swit	alski	DATE	February 12, 2019

### **Data Qualifiers**

Data Qualifier Definitions were supplied by the Office of Solid Waste and Emergency Response (September 1989) and are included in the Functional Guidelines. Data qualifiers may be combined (UJ, QJ) with the corresponding combination of meanings. Additional qualifiers may be added to provide additional, more specific information (JL, UB, QJK), modifying the meaning of the primary qualifier. Additional qualifiers utilized by WESTON are H, L, K, B, and Q.

U - The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation or detection limit, which has been adjusted for sample weight/sample volume, extraction volume, percent solids, sample dilution or other analysis specific parameters.

An additional qualifier, "B", may be appended to indicate that while the analyte was detected in the sample, the presence of the analyte may be attributable to blank contamination and the analyte is therefore considered undetected with the sample detection or quantitation limit for the analyte being elevated.

J - The analyte was analyzed for, but the associated numerical value may not be consistent with the amount actually present in the environmental sample or may not be consistent with the sample detection or quantitation limit. The value is an estimated quantity. The data should be seriously considered for decision-making and are usable for many purposes.

An additional qualifier will be appended to the "J" qualifier that indicates the bias in the reported results:

- L Low bias
- H High bias
- K Unknown bias
- Q The reported concentration is less than the sample quantitation limit for the specific analyte in the sample.

The L and H qualifier will only be employed when a single qualification is required. When more than one quality control parameter affects the analytical result and a conflict results in assigning a bias, the result will be flagged JK.

- R Quality Control indicates that data are unusable for all purposes. The analyte was analyzed for, but the presence or absence of the analyte has not been verified. Resampling and reanalysis are necessary for verification to confirm or deny the presence of an analyte.
- N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

#### METALS DATA EVALUATION

#### 1. Analytical Method:

Samples were prepared and analyzed for ICP metals using the procedures specified in SW-846 Method 6020A.

### 2. Holding Times:

All samples met established holding time criteria of 180 days for ICP metals. No qualifications are placed on the data.

#### 3. Initial Calibration:

ICP initial calibration included a blank and five standards and initial calibration verification results fell within the control limits of 90% to 110% of the true values. No qualifications are placed on the data.

### 4. Continuing Calibration:

All ICP results fell within the control limits of 90% to 110% of the true values. No qualifications are placed on the data.

#### 5. CRDL Standard:

All results for the CRDL standard were within the control limits of 70% to 130% of the true values or the sample results were greater than the CRDL action level. No qualifications are placed on the data.

#### 6. Blanks:

#### A. Laboratory Blanks:

A method blank was prepared at the required frequency of every time samples were prepared/digested for each matrix or every 20 samples whichever is greater. Target analytes were not detected in the method and calibration blanks at concentrations that warrant blank action. No qualifications are placed on the data.

#### B. Field Blanks:

No field blank samples were submitted with this analytical package. No qualifications are placed on the data.

#### 7. ICP Interference Check:

All results for the interference check sample were within the control limits of 80% to 120% of the true values. No qualifications are placed on the data.

#### 8. Laboratory Control Sample (LCS):

The recoveries for the LCS were within the control limits provided. No qualifications are placed on the data.

### 9. Duplicate Sample Analysis:

### A. Laboratory Duplicate Analysis:

No sample from this analytical package underwent matrix spike/matrix spike duplicate (MS/MSD) analysis for ICP metals for the solid matrix. No qualifications are placed on the data.

### B. Field Duplicate Analysis:

No field duplicate samples were submitted with this analytical package. No qualifications are placed on the data.

### 10. Spiked Sample Analysis:

No sample from this analytical package underwent MS/MSD analysis for ICP metals for the solid matrix. No qualifications are placed on the data.

#### 11. ICP Serial Dilution:

No sample from this analytical package underwent serial dilution for the solid matrix for ICP metals. No qualifications are placed on the data.

### 12. Sample Quantitation and Reporting Limits:

Concentrations of all reported analytes were correctly calculated.

Reported concentrations less than the reporting limit (RL) qualified "J" by the laboratory are qualified "JQ" to indicate that the result is less than the RL but greater than the method detection limit (MDL).

Some ICP metals analytes in some samples were analyzed at a 50 or 100-fold dilution. Reporting limits for these analytes in these samples were elevated as a result of the dilutions performed.

### 13. Laboratory Contact

No laboratory contact was required.

#### 14. Overall Assessment:

Reported concentrations less than the RL qualified "J" by the laboratory were qualified "JQ" to indicate that the result is less than the RL but greater than the MDL.

The analytical data is acceptable for use with the qualifications listed above.

Client:

Weston Solutions, Inc.

Project:

Sample ID:

Removal Soil Sampling FJD04-05-20190122-36-56

Collection Date:

22-Jan-2019 12:54

**ANALYTICAL REPORT** 

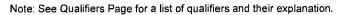
WorkOrder:HS19011054 Lab ID:HS19011054-01

Matrix:Soil

Sollection Date. 22-Jan-2019 12.54			Matrix.30II				
ANALYSES	RESULT	QUAL	MDL	REPORT LI <b>M</b> IT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL PAHS		Method	:SW8270		Prep:SW3541 / 2	3-Jan-2019	Analyst: GEY
Acenaphthene	4	VI	0.00062	0.0041	mg/Kg-dry	1 ,	23-Jan-2019 18:17
Acenaphthylene	U		0.0012	0.0041	mg/Kg-dry	1	23-Jan-2019 18:17
Anthracene	U		0.00062	0.0041	mg/Kg-dry	1	23-Jan-2019 18:17
Benz(a)anthracene	U		0.0020	0.0041	mg/Kg-dry	1	23-Jan-2019 18:17
Benzo(a)pyrene	U		0.0012	0.0041	mg/Kg-dry	1	23-Jan-2019 18:17
Benzo(b)fluoranthene	U		0.0015	0.0041	mg/Kg-dry	1	23-Jan-2019 18:17
Benzo(g,h,i)perylene	U		0.00087	0.0041	mg/Kg-dry	1 ,	23-Jan-2019 18:17
Benzo(k)fluoranthene	U	***************************************	0.0011	0.0041	mg/Kg-dry	1	23-Jan-2019 18:17
Chrysene	U		0.0010	0.0041	mg/Kg-dry	1	23-Jan-2019 18:17
Dibenz(a,h)anthracene	U	······	0.0020	0.0041	mg/Kg-dry	1	23-Jan-2019 18:17
Fluoranthene	· U		0.0014	0.0041	mg/Kg-dry	1	23-Jan-2019 18:17
Fluorene	U	***************************************	0.0014	0.0041	mg/Kg-dry	1	23-Jan-2019 18:17
Indeno(1,2,3-cd)pyrene	U		0.0010	0.0041	mg/Kg-dry	1	23-Jan-2019 18:17
Naphthalene	U	***************************************	0.00075	0.0041	mg/Kg-dry	1	23-Jan-2019 18:17
Phenanthrene	U		0.0019	0.0041	mg/Kg-dry	1	23-Jan-2019 18:17
Pyrene	U	***************************************	0.00075	0.0041	mg/Kg-dry	1	23-Jan-2019 18:17
Surr: 2-Fluorobiphenyl	54.9			43-125	%REC	1	23-Jan-2019 18:17
Surr: 4-Terphenyl-d14	79.6			32-125	%REC	1	23-Jan-2019 18:17
Surr: Nitrobenzene-d5	58.4			37-125	%REC	1	23-Jan-2019 18:17
PCBS BY SW8082A		Method	:SW8082		Prep:SW3541/36	65A / 23-Jan-	2019 Analyst: JLJ
Aroclor 1016	U		0.0052	0.021	mg/Kg-dry	1	24-Jan-2019 08:56
Aroclor 1221	U		0.0070	0.021	mg/Kg-dry	1	24-Jan-2019 08:56
Aroclor 1232	U		0.0056	0.021	mg/Kg-dry	1	24-Jan-2019 08:56
Aroclor 1242	U		0.0074	0.021	mg/Kg-dry	1	30-Jan-2019 03:36
Aroclor 1248	U		0.0074	0.021	mg/Kg-dry	1	24-Jan-2019 08:56
Aroclor 1254	U		0.0059	0.021	mg/Kg-dry	1	24-Jan-2019 08:56
Aroclor 1260	2.1		0.050	0.21	mg/Kg-dry	10	24-Jan-2019 10:47
Surr: Decachlorobiphenyl	92.9			54-143	%REC	1	24-Jan-2019 08:56
Surr: Decachlorobiphenyl	115	J		54-143	%REC	10	24-Jan-2019 10:47
Surr: Decachlorobiphenyl	79.9			54-143	%REC	1	30-Jan-2019 03:36
Surr: Tetrachloro-m-xylene	71.5			50-140	%REC	1	24-Jan-2019 08:56
Surr: Tetrachloro-m-xylene	82.2	J	***************************************	50-140	%REC	10	24-Jan-2019 10:47
Surr: Tetrachloro-m-xylene	74.7			50-140	%REC	1	30-Jan-2019 03:36



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Client: Project: Weston Solutions, Inc.

Removal Soil Sampling

Sample ID:

FJD04-05-20190122-36-56

Collection Date:

22-Jan-2019 12:54

**ANALYTICAL REPORT** 

WorkOrder:HS19011054 Lab ID:HS19011054-01

Matrix:Soil

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
METALS BY SW6020A		Method:S\	V6020	* . # . # . # .	Prep:SW3050A /	23-Jan-2019	Analyst: JCJ
Arsenic	7.75	***	0.0813	0.580	mg/Kg-dry	1	23-Jan-2019 18:54
Cadmium	0.422	SPC &	0.0313	0.580	mg/Kg-dry	1	23-Jan-2019 18:54
Cobalt	25.3	•	0.0174	0.580	mg/Kg-dry	1	23-Jan-2019 18:54
Iron	10,700	*	2.12	58.0	mg/Kg-dry	1	23-Jan-2019 18:54
Lead	8.00		0.0151	0.580	mg/Kg-dry	1	23-Jan-2019 18:54
Manganese	841	······································	2.50	29.0	mg/Kg-dry	50	24-Jan-2019 12:33
MOISTURE - ASTM D2216	N	lethod:AST	M D2216	7-7-3-1 40-2			Analyst: DFF
Percent Moisture	20.2		0.0100	0.0100	wt%	1	23-Jan-2019 11:37

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Note: See Qualifiers Page for a list of qualifiers and their explanation.



Revision: 1

Client:

Weston Solutions, Inc.

Project:

Removal Soil Sampling FJD04-06-20190122-36-56

Sample ID: Collection Date:

22-Jan-2019 13:00

**ANALYTICAL REPORT** 

WorkOrder:HS19011054 Lab ID:HS19011054-02

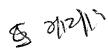
Matrix:Soil

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL PAHS		Method	:SW8270	Complete States	Prep.SW3541 / 2	3-Jan-2019	Analyst: GEY
Acenaphthene	U		0.00062	0.0041	mg/Kg-dry	1	23-Jan-2019 17:19
Acenaphthylene	Ü	STATE Annual Conditions	0.0012	0.0041	mg/Kg-dry	1	23-Jan-2019 17:19
Anthracene	U		0.00062	0.0041	mg/Kg-dry	1	23-Jan-2019 17:19
Benz(a)anthracene	U	*******************************	0.0020	0.0041	mg/Kg-dry	1	23-Jan-2019 17:19
Benzo(a)pyrene	U		0.0012	0.0041	mg/Kg-dry	1	23-Jan-2019 17:19
Benzo(b)fluoranthene	U	***************************************	0.0015	0.0041	mg/Kg-dry	1	23-Jan-2019 17:19
Benzo(g,h,i)perylene	U		0.00087	0.0041	mg/Kg-dry	1	23-Jan-2019 17:19
Benzo(k)fluoranthene	U		0.0011	0.0041	mg/Kg-dry	1	23-Jan-2019 17:19
Chrysene	U		0.00099	0.0041	mg/Kg-dry	1	23-Jan-2019 17:19
Dibenz(a,h)anthracene	U	***************************************	0.0020	0.0041	mg/Kg-dry	1	23-Jan-2019 17:19
Fluoranthene	0.0014	J	Q 0.0014	0.0041	mg/Kg-dry	1	23-Jan-2019 17:19
Fluorene	U	**************************************	0.0014	0.0041	mg/Kg-dry	1	23-Jan-2019 17:19
Indeno(1,2,3-cd)pyrene	U		0.00099	0.0041	mg/Kg-dry	1	23-Jan-2019 17:19
Naphthalene	U		0,00074	0.0041	mg/Kg-dry	1	23-Jan-2019 17:19
Phenanthrene	U		0.0019	0.0041	mg/Kg-dry	1	23-Jan-2019 17:19
Pyrene	0.00098	45l	<b>Q</b> 0.00074	0.0041	mg/Kg-dry	1	23-Jan-2019 17:19
Surr: 2-Fluorobiphenyl	75.9			43-125	%REC	1	23-Jan-2019 17:19
Surr: 4-Terphenyl-d14	78.1			32-125	%REC	1	23-Jan-2019 17:19
Surr: Nitrobenzene-d5	78.6			37-125	%REC	1	23-Jan-2019 17:19
PCBS BY SW8082A		Method	SW8082		Prep:SW3541/36	65A / 23-Jan-	2019 Analyst: JLJ
Aroclor 1016	U	***************************************	0.0052	0.021	mg/Kg-dry	1	24-Jan-2019 09:12
Aroclor 1221	U		0.0070	0.021	mg/Kg-dry	1	24-Jan-2019 09:12
Aroclor 1232	U		0.0056	0.021	mg/Kg-dry	1	24-Jan-2019 09:12
Aroclor 1242	U		0.0073	0.021	mg/Kg-dry	1	24-Jan-2019 09:12
Aroclor 1248	U		0.0073	0.021	mg/Kg-dry	1	24-Jan-2019 09:12
Aroclor 1254	U		0.0058	0.021	mg/Kg-dry	1	24-Jan-2019 09:12
Aroclor 1260	0.034		0.0050	0.021	mg/Kg-dry	1	24-Jan-2019 09:12
Surr: Decachlorobiphenyl	105			54-143	%REC	1	24-Jan-2019 09:12
Surr: Tetrachloro-m-xylene	100			50-140	%REC	1	24-Jan-2019 09:12
METALS BY SW6020A		Method	:SW6020		Prep:SW3050A	23-Jan-2019	Analyst: JCJ
Arsenic	6.48		0.0831	0.593	mg/Kg-dry	1	23-Jan-2019 18:56
Cadmium	0.336	とび	<b>©</b> 0.0320	0.593	mg/Kg-dry	1	23-Jan-2019 18:56
Cobalt	6.31		0.0178	0.593	mg/Kg-dry	1	23-Jan-2019 18:56
ron	11,500	***************************************	2.17	59.3	mg/Kg-dry	1	23-Jan-2019 18:56
Lead	6.71		0.0154	0.593	mg/Kg-dry	1	23-Jan-2019 18:56
Manganese	1,380		5.10	59.3	mg/Kg-dry	100	24-Jan-2019 12:35
MOISTURE - ASTM D2216	N	lethod:A	STM D2216				Analyst: DFF
Percent Moisture	19.6		0.0100	0.0100	wt%	1	23-Jan-2019 11:37

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1





# DATA QUALITY ASSURANCE REVIEW

SITE NAME Frank J. Doy	le Salvage Removal Actio	n	
WORK ORDER NUMBER	20600.012.001.1175.01	TDD NUMBER	0001/18-175
PROJECT NUMBER		SDG NUMBER	HS19011339
Weston Solutions, Inc. (WES 20600.012.001.1175.01; SDG No. analyzed for Polychlorinated Biphebelow.	HS19011339; Frank J. I	Doyle Salvage Rem	
	SAMPLE NUM	BERS	
FJD04-03-20190128-36-56			
This data package was validated to USEPA National Functional Guide National Functional Guidelines of Laboratory Program National Fu (April, 2016), Quality Assurance/9 the Regional Protocol for Holdin qualifications are listed in the follows:	elines for Organic Superfu for Inorganic Superfund inctional Guidelines for H Quality Control Guidance g Times, Blanks, and V	nd Methods Data R Data Review (Janu High Resolution Sup for Removal Activi	Peview (January, 2017), USEPA Lary, 2017), USEPA Contract perfund Methods Data Reviev lities (September, 2011), and/o
DEVIEWED Gloria I Swit	taleki	DATE	February 12, 2010

### **Data Qualifiers**

Data Qualifier Definitions were supplied by the Office of Solid Waste and Emergency Response (September 1989) and are included in the Functional Guidelines. Data qualifiers may be combined (UJ, QJ) with the corresponding combination of meanings. Additional qualifiers may be added to provide additional, more specific information (JL, UB, QJK), modifying the meaning of the primary qualifier. Additional qualifiers utilized by WESTON are H, L, K, B, and Q.

U - The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation or detection limit, which has been adjusted for sample weight/sample volume, extraction volume, percent solids, sample dilution or other analysis specific parameters.

An additional qualifier, "B", may be appended to indicate that while the analyte was detected in the sample, the presence of the analyte may be attributable to blank contamination and the analyte is therefore considered undetected with the sample detection or quantitation limit for the analyte being elevated.

J - The analyte was analyzed for, but the associated numerical value may not be consistent with the amount actually present in the environmental sample or may not be consistent with the sample detection or quantitation limit. The value is an estimated quantity. The data should be seriously considered for decision-making and are usable for many purposes.

An additional qualifier will be appended to the "J" qualifier that indicates the bias in the reported results:

- L Low bias
- H High bias
- K Unknown bias
- Q The reported concentration is less than the sample quantitation limit for the specific analyte in the sample.

The L and H qualifier will only be employed when a single qualification is required. When more than one quality control parameter affects the analytical result and a conflict results in assigning a bias, the result will be flagged JK.

- R Quality Control indicates that data are unusable for all purposes. The analyte was analyzed for, but the presence or absence of the analyte has not been verified. Resampling and reanalysis are necessary for verification to confirm or deny the presence of an analyte.
- N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

#### PCB FRACTION EVALUATION

### 1. Analytical Method:

Samples were prepared and analyzed for PCBs using the procedures specified in SW-846 Method 8082A.

#### 2. Holding Time:

The samples were received within the recommended  $\leq$ 6°C NFG limit. All samples were extracted within the required holding time of less than 1 year after collection. Analysis of the samples was conducted within 40 days of extraction. No qualifications are placed on the data.

#### 3. Initial Calibration:

The correlation coefficient of the multipoint initial calibration was greater than or equal to 0.995 or the percent relative standard deviation (%RSD) was less than or equal to 20%. No qualifications are placed on the data.

#### 4. Continuing Calibration:

The continuing calibration check was analyzed at the required frequency and met recovery requirements of 75%-125% [percent difference (%D) was less than 25%]. No qualifications are placed on the data.

#### 5. Blanks:

#### A. Laboratory Blanks:

A method blank was prepared at the required frequency of every time samples were extracted for each matrix and concentration or every 20 samples whichever is greater. No target analytes were detected in the method blanks at concentrations that warrant blank action. No qualifications are placed on the data.

### B. Field Blanks:

No field blank samples were submitted with this analytical package. No qualifications are placed on the data.

#### 6. Surrogates:

All recoveries of the surrogates were within the control limits provided. No qualifications are placed on the data.

### 7. Matrix Spikes/Matrix Spike Duplicates (MS/MSD):

No sample from this analytical package underwent MS/MSD analysis for the solid matrix. No qualifications are placed on the data.

### 8. Duplicates:

### A. Laboratory Duplicate Analysis:

No sample from this analytical package underwent MS/MSD analysis for the solid matrix. No qualifications are placed on the data.

### B. Field Duplicate Analysis:

No field duplicate samples were submitted with this analytical package. No qualifications are placed on the data.

### 9. Laboratory Control Sample (LCS):

The laboratory analyzed an LCS and recoveries were within the control limits provided. No qualifications are placed on the data.

### 10. Target Compound Identification, Quantitation, and Reporting Limits:

Concentrations of all reported compounds were correctly calculated.

The %D between the column results were within the acceptance limits (≤25). No qualifications are placed on the data.

One PCB sample was analyzed at a dilution for Aroclor 1260. The reporting limit for Aroclor 1260 in this sample was elevated as a result of the dilution performed.

### 11. Laboratory Contact:

No laboratory contact was required.

#### 12. Overall Assessment:

The analytical data is acceptable for use without qualification.

# DATA QUALITY ASSURANCE REVIEW

SITE NAME Frank J. Doy	le Salvage Removal Actio	n	
WORK ORDER NUMBER	20600.012.001.1175.01	TDD NUMBER	0001/18-175
PROJECT NUMBER		SDG NUMBER	HS19011339
Weston Solutions, Inc. (WES 20600.012.001.1175.01; SDG No. analyzed for Polynuclear Aromatic below.	HS19011339; Frank J. 1	Doyle Salvage Ren	
	SAMPLE NUM	BERS	
FJD04-03-20190128-36-56			
	_		
This data package was validated to USEPA National Functional Guidelines of Laboratory Program National Fu (April, 2016), Quality Assurance/9 the Regional Protocol for Holdin qualifications are listed in the follows:	elines for Organic Superful for Inorganic Superfund Inctional Guidelines for I Quality Control Guidance g Times, Blanks, and V	and Methods Data R Data Review (Jan High Resolution Su for Removal Activ	Review (January, 2017), USEPA uary, 2017), USEPA Contract perfund Methods Data Revievities (September, 2011), and/o
DEVIEWED Gloria I Swi	taleki	DATE	Fahruary 12, 2010

#### **Data Qualifiers**

Data Qualifier Definitions were supplied by the Office of Solid Waste and Emergency Response (September 1989) and are included in the Functional Guidelines. Data qualifiers may be combined (UJ, QJ) with the corresponding combination of meanings. Additional qualifiers may be added to provide additional, more specific information (JL, UB, QJK), modifying the meaning of the primary qualifier. Additional qualifiers utilized by WESTON are H, L, K, B, and Q.

U - The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation or detection limit, which has been adjusted for sample weight/sample volume, extraction volume, percent solids, sample dilution or other analysis specific parameters.

An additional qualifier, "B", may be appended to indicate that while the analyte was detected in the sample, the presence of the analyte may be attributable to blank contamination and the analyte is therefore considered undetected with the sample detection or quantitation limit for the analyte being elevated.

J - The analyte was analyzed for, but the associated numerical value may not be consistent with the amount actually present in the environmental sample or may not be consistent with the sample detection or quantitation limit. The value is an estimated quantity. The data should be seriously considered for decision-making and are usable for many purposes.

An additional qualifier will be appended to the "J" qualifier that indicates the bias in the reported results:

- L Low bias
- H High bias
- K Unknown bias
- Q The reported concentration is less than the sample quantitation limit for the specific analyte in the sample.

The L and H qualifier will only be employed when a single qualification is required. When more than one quality control parameter affects the analytical result and a conflict results in assigning a bias, the result will be flagged JK.

- R Quality Control indicates that data are unusable for all purposes. The analyte was analyzed for, but the presence or absence of the analyte has not been verified. Resampling and reanalysis are necessary for verification to confirm or deny the presence of an analyte.
- N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

#### PAH FRACTION EVALUATION

### 1. Analytical Method:

Samples were prepared and analyzed using the procedures specified in SW-846 Method 8270D selective ion monitoring (SIM).

### 2. Holding Time:

The samples were received within the recommended  $\leq$ 6°C NFG limit. All samples were extracted within the required holding time of less than 7 days for waters and less than 14 days for solids/wastes after collection. Analysis of the samples was conducted within 40 days of extraction. No qualifications are placed on the data.

### 3. Tuning/Performance:

DFTPP tuning of the mass spectrometer(s) was conducted at the required frequency and results were within the required criteria. No qualifications are placed on the data.

#### 4. Initial Calibration:

All individual relative response factors (RRFs) and average RRFs for the initial calibration (IC) were greater than the compound dependent (see Table 34 of National Functional Guidelines) control limits. All percent relative standard deviations (%RSDs) were less than the compound dependent (see Table 34 of National Functional Guidelines) control limits or the correlation coefficient was > 0.990. No qualifications are placed on the data.

### 5. Continuing Calibration:

All individual RRFs for the initial calibration verification (ICV) and continuing calibration (CC) standards were greater than the compound dependent (see Table 34 of National Functional Guidelines) control limits. All percent differences (%Ds) were less than the compound dependent (see Table 34 of National Functional Guidelines) control limits. No qualifications are placed on the data.

#### 6. Blanks:

### A. Laboratory Blanks:

A method blank was prepared at the required frequency of every time samples were extracted for each matrix and concentration or every 20 samples whichever is greater. Target analytes were not detected in the method at concentrations that warrant blank action. No qualifications are placed on the data.

#### B Field Blanks:

No field blank samples were submitted with this analytical package. No qualifications are placed on the data.

#### 7. System Monitoring Compounds (SMC):

All recoveries of the system monitoring compounds (surrogates) were within the control limits provided. No qualifications are placed on the data.

### 8. Duplicates:

### A. Laboratory Duplicate Analysis:

No sample from this analytical package underwent matrix spike/matrix spike duplicate (MS/MSD) analysis for the solid matrix. No qualifications are placed on the data.

#### B. Field Duplicate Analysis:

No field duplicate samples were submitted with this analytical package. No qualifications are placed on the data.

### 9. Matrix Spike/Matrix Spike Duplicate:

No sample from this analytical package underwent MS/MSD analysis for the solid matrix. No qualifications are placed on the data.

#### 10. Internal Standards:

Areas of the six internal standards were within the control limits of a factor of 2 (-50% to +100%) and retention times were within 30 seconds from the associated 12 hour calibration standard. No qualifications are placed on the data.

### 11. Laboratory Control Sample (LCS):

The laboratory analyzed an LCS and recoveries were within the control limits provided. No qualifications are placed on the data.

### 12. Target Compound Identification:

All target compounds reported by the laboratory met identification criteria of relative retention times (RRT) within 0.06 RRT units of the 12 hour standard and that all ions present in the standard mass spectrum were present in the sample mass spectrum and the abundance of these ions agreed within  $\pm$  20% of the standard. No qualifications are placed on the data.

#### 13. Target Compound Quantitation and Reporting Limits:

Concentrations of all reported compounds were correctly calculated.

Reported concentrations less than the reporting limit (RL) qualified "J" by the laboratory are qualified "JQ" to indicate that the result is less than the RL but greater than the method detection limit (MDL).

### 14. Laboratory Contact:

No laboratory contact was required.

#### 15. Overall Assessment

Reported concentrations less than the RL qualified "J" by the laboratory were qualified "JQ" to indicate that the result is less than the RL but greater than the MDL.

The analytical data is acceptable for use with the qualifications listed above.

# DATA QUALITY ASSURANCE REVIEW

WORK ORDER NUMBER	20600.012.001.1175.01	TDD NUMBER	0001/18-175
PROJECT NUMBER		SDG NUMBER	HS19011339
Weston Solutions, Inc. (WES 20600.012.001.1175.01; SDG No. analyzed for metals (As, Cd, Co, F	. HS19011339; Frank J. 1	Doyle Salvage Rem	noval Action. One sample wa
	SAMPLE NUM	BERS	
FJD04-03-20190128-36-56			
This data package was validated to USEPA National Functional Guide National Functional Guidelines j	elines for Organic Superfi for Inorganic Superfund	nd Methods Data R Data Review (Janu	Teview (January, 2017), USEPA nary, 2017), USEPA Contrac
Laboratory Program National Fu (April, 2016), Quality Assurance/9 the Regional Protocol for Holdin qualifications are listed in the follow	Quality Control Guidance g Times, Blanks, and V	for Removal Activi	ities (September, 2011), and/o
REVIEWER Gloria I Swi	talski	DATE	February 12, 2019

### **Data Qualifiers**

Data Qualifier Definitions were supplied by the Office of Solid Waste and Emergency Response (September 1989) and are included in the Functional Guidelines. Data qualifiers may be combined (UJ, QJ) with the corresponding combination of meanings. Additional qualifiers may be added to provide additional, more specific information (JL, UB, QJK), modifying the meaning of the primary qualifier. Additional qualifiers utilized by WESTON are H, L, K, B, and Q.

U - The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation or detection limit, which has been adjusted for sample weight/sample volume, extraction volume, percent solids, sample dilution or other analysis specific parameters.

An additional qualifier, "B", may be appended to indicate that while the analyte was detected in the sample, the presence of the analyte may be attributable to blank contamination and the analyte is therefore considered undetected with the sample detection or quantitation limit for the analyte being elevated.

J - The analyte was analyzed for, but the associated numerical value may not be consistent with the amount actually present in the environmental sample or may not be consistent with the sample detection or quantitation limit. The value is an estimated quantity. The data should be seriously considered for decision-making and are usable for many purposes.

An additional qualifier will be appended to the "J" qualifier that indicates the bias in the reported results:

- L Low bias
- H High bias
- K Unknown bias
- Q The reported concentration is less than the sample quantitation limit for the specific analyte in the sample.

The L and H qualifier will only be employed when a single qualification is required. When more than one quality control parameter affects the analytical result and a conflict results in assigning a bias, the result will be flagged JK.

- R Quality Control indicates that data are unusable for all purposes. The analyte was analyzed for, but the presence or absence of the analyte has not been verified. Resampling and reanalysis are necessary for verification to confirm or deny the presence of an analyte.
- N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

#### METALS DATA EVALUATION

#### 1. Analytical Method:

Samples were prepared and analyzed for ICP metals using the procedures specified in SW-846 Method 6020A.

### 2. Holding Times:

All samples met established holding time criteria of 180 days for ICP metals. No qualifications are placed on the data.

#### 3. Initial Calibration:

ICP initial calibration included a blank and five standards and initial calibration verification results fell within the control limits of 90% to 110% of the true values. No qualifications are placed on the data.

### 4. Continuing Calibration:

All ICP results fell within the control limits of 90% to 110% of the true values. No qualifications are placed on the data.

#### 5. CRDL Standard:

All results for the CRDL standard were within the control limits of 70% to 130% of the true values or the sample results were greater than the CRDL action level. No qualifications are placed on the data.

#### 6. Blanks:

#### A. Laboratory Blanks:

A method blank was prepared at the required frequency of every time samples were prepared/digested for each matrix or every 20 samples whichever is greater. Target analytes were not detected in the method and calibration blanks at concentrations that warrant blank action. No qualifications are placed on the data.

#### B. Field Blanks:

No field blank samples were submitted with this analytical package. No qualifications are placed on the data.

#### 7. ICP Interference Check:

All results for the interference check sample were within the control limits of 80% to 120% of the true values. No qualifications are placed on the data.

#### 8. Laboratory Control Sample (LCS):

The recoveries for the LCS were within the control limits provided. No qualifications are placed on the data.

### 9. Duplicate Sample Analysis:

### A. Laboratory Duplicate Analysis:

No sample from this analytical package underwent matrix spike/matrix spike duplicate (MS/MSD) analysis for ICP metals for the solid matrix. No qualifications are placed on the data.

### B. Field Duplicate Analysis:

No field duplicate samples were submitted with this analytical package. No qualifications are placed on the data.

### 10. Spiked Sample Analysis:

No sample from this analytical package underwent MS/MSD analysis for ICP metals for the solid matrix. No qualifications are placed on the data.

#### 11. ICP Serial Dilution:

No sample from this analytical package underwent serial dilution for the solid matrix for ICP metals. No qualifications are placed on the data.

### 12. Sample Quantitation and Reporting Limits:

Concentrations of all reported analytes were correctly calculated.

Reported concentrations less than the reporting limit (RL) qualified "J" by the laboratory are qualified "JQ" to indicate that the result is less than the RL but greater than the method detection limit (MDL).

Manganese in the only sample was analyzed at a 50-fold dilution. The reporting limit for manganese in this sample was elevated as a result of the dilution performed.

#### 13. Laboratory Contact

No laboratory contact was required.

#### 14. Overall Assessment:

Reported concentrations less than the RL qualified "J" by the laboratory were qualified "JQ" to indicate that the result is less than the RL but greater than the MDL.

The analytical data is acceptable for use with the qualifications listed above.

Weston Solutions, Inc.

Project:

FJ Doyle RA/TX

Sample ID: Collection Date: FJD04-03-20190128-36-56

28-Jan-2019 13:12

**ANALYTICAL REPORT** 

WorkOrder:HS19011339 Lab ID:HS19011339-01

Matrix:Soil

Collection Date.	20-3411-2019 13.12			Wattix.30ii				
ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED	
LOW-LEVEL PAHS	Heller Control	Method:S	W8270		Prep.SW3541 / 2	9-Jan-2019	Analyst: GEY	
Acenaphthene	U		0.00059	0.0039	mg/Kg-dry	1	29-Jan-2019 21:50	
Acenaphthylene	U	and the second s	0.0012	0.0039	mg/Kg-dry	1	29-Jan-2019 21:50	
Anthracene	U		0.00059	0.0039	mg/Kg-dry	1	29-Jan-2019 21:50	
Benz(a)anthracene	U	e e e e e e e e e e e e e e e e e e e	0.0019	0.0039	mg/Kg-dry	1	29-Jan-2019 21:50	
Benzo(a)pyrene	U		0.0012	0.0039	mg/Kg-dry	1	29-Jan-2019 21:50	
Benzo(b)fluoranthene	U		0.0014	0.0039	mg/Kg-dry	1	29-Jan-2019 21:50	
Benzo(g,h,i)perylene	0.0010	1D	0.00083	0.0039	mg/Kg-dry	1	29-Jan-2019 21:50	
Benzo(k)fluoranthene	U		0.0011	0.0039	mg/Kg-dry	1	29-Jan-2019 21:50	
Chrysene	U	•	0.00095	0.0039	mg/Kg-dry	1	29-Jan-2019 21:50	
Dibenz(a,h)anthracene	U	A STATE OF THE PARTY OF THE PAR	0.0019	0.0039	mg/Kg-dry	1	29-Jan-2019 21:50	
Fluoranthene	U		0.0013	0.0039	mg/Kg-dry	1	29-Jan-2019 21:50	
Fluorene	U		0.0013	0.0039	mg/Kg-dry	1	29-Jan-2019 21:50	
Indeno(1,2,3-cd)pyrene	U		0.00095	0.0039	mg/Kg-dry	1	29-Jan-2019 21:50	
Naphthalene	0.0012	PD &	0.00071	0.0039	mg/Kg-dry	1	29-Jan-2019 21:50	
Phenanthrene	U	•	0.0018	0.0039	mg/Kg-dry	1	29-Jan-2019 21:50	
Pyrene	Ü	**************************************	0.00071	0.0039	mg/Kg-dry	1	29-Jan-2019 21:50	
Surr: 2-Fluorobiphenyl	68.0			43-125	%REC	1	29-Jan-2019 21:50	
Surr: 4-Terphenyl-d14	86.7	800 000 000 000 000 000 000 000 000 000	***************************************	32-125	%REC	1	29-Jan-2019 21:50	
Surr: Nitrobenzene-d5	<i>65.6</i>			37-125	%REC	1	29-Jan-2019 21:50	
PCBS BY SW8082A	100	Method:S	W8082		Prep:SW3541/36	65A / 29-Jan-	2019 Analyst: JBA	
Aroclor 1016	U		0.0050	0.020	mg/Kg-dry	1	30-Jan-2019 02:40	
Aroclor 1221	U		0.0066	0.020	mg/Kg-dry	1	30-Jan-2019 02:40	
Aroclor 1232	U		0.0053	0.020	mg/Kg-dry	1	30-Jan-2019 02:40	
Aroclor 1242	U		0.0070	0.020	mg/Kg-dry	1	30-Jan-2019 02:40	
Aroclor 1248	U		0.0070	0.020	mg/Kg-dry	1	30-Jan-2019 02:40	
Aroclor 1254	U		0.0056	0.020	mg/Kg-dry	1	30-Jan-2019 02:40	
Aroclor 1260	3.1		0.047	0.20	mg/Kg-dry	10	30-Jan-2019 02:56	
Surr: Decachlorobiphenyl	121			54-143	%REC	1	30-Jan-2019 02:40	
Surr: Decachlorobiphenyl	106	J		54-143	%REC	10	30-Jan-2019 02:56	
Surr: Tetrachloro-m-xylene	85.2			50-140	%REC	1	30-Jan-2019 02:40	
Surr: Tetrachloro-m-xylene	89.2	J		50-140	%REC	10	30-Jan-2019 02:56	
METALS BY SW6020A	474.4	Method:S	W6020		Prep SW3050A /	29-Jan-2019	Analyst: JCJ	
Arsenic	4.98		0.0765	0.546	mg/Kg-dry	1	29-Jan-2019 20:54	
Cadmium	0.370	QT.	0.0295	0.546	mg/Kg-dry	1	29-Jan-2019 20:54	
Cobalt	5.89	- 1	0.0164	0.546	mg/Kg-dry	1	29-Jan-2019 20:54	
lron	16,200	Mittandich Olimo	2.00	54.6	mg/Kg-dry	1	29-Jan-2019 20:54	
Lead	11.8		0.0142	0.546	mg/Kg-dry	1	29-Jan-2019 20:54	
Manganese	914		2.35	27.3	mg/Kg-dry	50	30-Jan-2019 13:30	

Note: See Qualifiers Page for a list of qualifiers and their explanation.



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**ALS Houston, US** 

Date: 30-Jan-19

Client:

Weston Solutions, Inc.

Project:

FJ Doyle RA/TX

Sample ID: Collection Date: FJD04-03-20190128-36-56 28-Jan-2019 13:12 **ANALYTICAL REPORT** 

WorkOrder:HS19011339

Lab ID:HS19011339-01

Matrix:Soil

ANALYSES	RESULT QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
MOISTURE - ASTM D2216	Method:AS	4.743		40/		Analyst: DFF
Percent Moisture	15.8	0.0100	0.0100	wt%	1	29-Jan-2019 15:03



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# DATA QUALITY ASSURANCE REVIEW

SITE NAME	Frank J. Doy	le Salvage Removal Actio	n	
WORK ORDE	R NUMBER	20600.012.001.1175.01	TDD NUMBER	0001/18-175
PROJECT NUM	MBER		SDG NUMBER	HS19020082
20600.012.001.1175	5.01; SDG No.	HS19020082; Frank J. D	oyle Salvage Remo	for Work Order Number oval Action. Four samples were ntal. Sample numbers are listed
		SAMPLE NUM	BERS	
DRA04-20190201-1 FJD04-01-20190201		DRA05-20190201-12-	56 DR	A07W-20190201-24-56
USEPA National Functional National Functional Laboratory Program (April, 2016), Qual	unctional Guide al Guidelines j m National Fu lity Assurance/ col for Holdin	elines for Organic Superfu for Inorganic Superfund unctional Guidelines for I Quality Control Guidance ug Times, Blanks, and V	und Methods Data I Data Review (Jan High Resolution Su for Removal Activ	ations were achieved, following Review (January, 2017), USEPA uary, 2017), USEPA Contract perfund Methods Data Review vities (September, 2011), and/or April 13, 1989). Specific data
DEVIEWED	Gloria I Swi	taleki	DATE	March 5, 2010

#### **Data Qualifiers**

Data Qualifier Definitions were supplied by the Office of Solid Waste and Emergency Response (September 1989) and are included in the Functional Guidelines. Data qualifiers may be combined (UJ, QJ) with the corresponding combination of meanings. Additional qualifiers may be added to provide additional, more specific information (JL, UB, QJK), modifying the meaning of the primary qualifier. Additional qualifiers utilized by WESTON are H, L, K, B, and Q.

U - The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation or detection limit, which has been adjusted for sample weight/sample volume, extraction volume, percent solids, sample dilution or other analysis specific parameters.

An additional qualifier, "B", may be appended to indicate that while the analyte was detected in the sample, the presence of the analyte may be attributable to blank contamination and the analyte is therefore considered undetected with the sample detection or quantitation limit for the analyte being elevated.

J - The analyte was analyzed for, but the associated numerical value may not be consistent with the amount actually present in the environmental sample or may not be consistent with the sample detection or quantitation limit. The value is an estimated quantity. The data should be seriously considered for decision-making and are usable for many purposes.

An additional qualifier will be appended to the "J" qualifier that indicates the bias in the reported results:

- L Low bias
- H High bias
- K Unknown bias
- Q The reported concentration is less than the sample quantitation limit for the specific analyte in the sample.

The L and H qualifier will only be employed when a single qualification is required. When more than one quality control parameter affects the analytical result and a conflict results in assigning a bias, the result will be flagged JK.

- R Quality Control indicates that data are unusable for all purposes. The analyte was analyzed for, but the presence or absence of the analyte has not been verified. Resampling and reanalysis are necessary for verification to confirm or deny the presence of an analyte.
- N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

#### PCB FRACTION EVALUATION

### 1. Analytical Method:

Samples were prepared and analyzed for PCBs using the procedures specified in SW-846 Method 8082A.

#### 2. Holding Time:

The samples were received within the recommended ≤6°C NFG limit. All samples were extracted within the required holding time of less than 1 year after collection. Analysis of the samples was conducted within 40 days of extraction. No qualifications are placed on the data.

#### 3. Initial Calibration:

The correlation coefficient of the multipoint initial calibration was greater than or equal to 0.995 or the percent relative standard deviation (%RSD) was less than or equal to 20%. No qualifications are placed on the data.

#### 4. Continuing Calibration:

The continuing calibration check was analyzed at the required frequency and met recovery requirements of 75%-125% [percent difference (%D) was less than 25%]. No qualifications are placed on the data.

#### 5. Blanks:

#### A. Laboratory Blanks:

A method blank was prepared at the required frequency of every time samples were extracted for each matrix and concentration or every 20 samples whichever is greater. No target analytes were detected in the method blanks at concentrations that warrant blank action. No qualifications are placed on the data.

#### B. Field Blanks:

No field blank samples were submitted with this analytical package. No qualifications are placed on the data.

#### 6. Surrogates:

All recoveries of the surrogates were within the control limits provided. No qualifications are placed on the data.

### 7. Matrix Spikes/Matrix Spike Duplicates (MS/MSD):

No sample from this analytical package underwent MS/MSD analysis for the solid matrix. No qualifications are placed on the data.

#### 8. Duplicates:

#### A. Laboratory Duplicate Analysis:

No sample from this analytical package underwent MS/MSD analysis for the solid matrix. No qualifications are placed on the data.

### B. Field Duplicate Analysis:

No field duplicate samples were submitted with this analytical package. No qualifications are placed on the data.

### 9. Laboratory Control Sample (LCS):

The laboratory analyzed an LCS and recoveries were within the control limits provided. No qualifications are placed on the data.

### 10. Target Compound Identification, Quantitation, and Reporting Limits:

Concentrations of all reported compounds were correctly calculated.

The %D between the column results for the following analyte was above acceptance limits ( $\leq 25$ ):

SAMPLE ID	ANALYTE	%D	QUALIFIER FLAG	
DRA05-20190201-12-56	Aroclor 1260	36.6	JK	

### 11. Laboratory Contact:

No laboratory contact was required.

#### 12. Overall Assessment:

The Aroclor 1260 result in one sample was estimated due to the high %D between the column results.

The analytical data is acceptable for use with the qualifications listed above.

## DATA QUALITY ASSURANCE REVIEW

SHE NAME Frank J. Doy	ie Salvage Removal Actio	on	
WORK ORDER NUMBER	20600.012.001.1175.01	TDD NUMBER	0001/18-175
PROJECT NUMBER		SDG NUMBER	HS19020082
Weston Solutions, Inc. (WES 20600.012.001.1175.01; SDG No. analyzed for Polynuclear Aromatic below.	HS19020082; Frank J. D	oyle Salvage Ren	noval Action. Four samples were
	SAMPLE NUM	IBERS	
DRA04-20190201-12-56	DRA05-20190201-12-	56 <u>D</u>	RA07W-20190201-24-56
FJD04-01-20190201-36-56			
-			
-			
This data package was validated to USEPA National Functional Guidelines of Laboratory Program National Fu (April, 2016), Quality Assurance/Qualifications are listed in the follows	elines for Organic Superfi for Inorganic Superfund nctional Guidelines for I Quality Control Guidance g Times, Blanks, and V	und Methods Data Data Review (Ja High Resolution S of for Removal Act	Review (January, 2017), USEPA unuary, 2017), USEPA Contract Superfund Methods Data Review ivities (September, 2011), and/or
REVIEWER Gloria J. Swit	talski	DATE	March 5, 2019

#### **Data Qualifiers**

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U - The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation or detection limit, which has been adjusted for sample weight/sample volume, extraction volume, percent solids, sample dilution or other analysis specific parameters.

An additional qualifier, "B", may be appended to indicate that while the analyte was detected in the sample, the presence of the analyte may be attributable to blank contamination and the analyte is therefore considered undetected with the sample detection or quantitation limit for the analyte being elevated.

J - The analyte was analyzed for, but the associated numerical value may not be consistent with the amount actually present in the environmental sample or may not be consistent with the sample detection or quantitation limit. The value is an estimated quantity. The data should be seriously considered for decision-making and are usable for many purposes.

An additional qualifier will be appended to the "J" qualifier that indicates the bias in the reported results:

- L Low bias
- H High bias
- K Unknown bias
- Q The reported concentration is less than the sample quantitation limit for the specific analyte in the sample.

The L and H qualifier will only be employed when a single qualification is required. When more than one quality control parameter affects the analytical result and a conflict results in assigning a bias, the result will be flagged JK.

- R Quality Control indicates that data are unusable for all purposes. The analyte was analyzed for, but the presence or absence of the analyte has not been verified. Resampling and reanalysis are necessary for verification to confirm or deny the presence of an analyte.
- N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

#### PAH FRACTION EVALUATION

### 1. Analytical Method:

Samples were prepared and analyzed using the procedures specified in SW-846 Method 8270D selective ion monitoring (SIM).

### 2. Holding Time:

The samples were received within the recommended  $\leq$ 6°C NFG limit. All samples were extracted within the required holding time of less than 7 days for waters and less than 14 days for solids/wastes after collection. Analysis of the samples was conducted within 40 days of extraction. No qualifications are placed on the data.

### 3. Tuning/Performance:

DFTPP tuning of the mass spectrometer(s) was conducted at the required frequency and results were within the required criteria. No qualifications are placed on the data.

#### 4. Initial Calibration:

All individual relative response factors (RRFs) and average RRFs for the initial calibration (IC) were greater than the compound dependent (see Table 34 of National Functional Guidelines) control limits. All percent relative standard deviations (%RSDs) were less than the compound dependent (see Table 34 of National Functional Guidelines) control limits or the correlation coefficient was > 0.990. No qualifications are placed on the data.

### 5. Continuing Calibration:

All individual RRFs for the initial calibration verification (ICV) and continuing calibration (CC) standards were greater than the compound dependent (see Table 34 of National Functional Guidelines) control limits. All percent differences (%Ds) were less than the compound dependent (see Table 34 of National Functional Guidelines) control limits. No qualifications are placed on the data.

#### 6. Blanks:

#### A. Laboratory Blanks:

A method blank was prepared at the required frequency of every time samples were extracted for each matrix and concentration or every 20 samples whichever is greater. Target analytes were not detected in the method at concentrations that warrant blank action. No qualifications are placed on the data.

#### B. Field Blanks:

No field blank samples were submitted with this analytical package. No qualifications are placed on the data.

#### 7. System Monitoring Compounds (SMC):

All recoveries of the system monitoring compounds (surrogates) were within the control limits provided. No qualifications are placed on the data.

#### 8. Duplicates:

### A. Laboratory Duplicate Analysis:

Sample FJD04-01-20190201-36-56 underwent matrix spike/matrix spike duplicate (MS/MSD) analysis for the solid matrix. QC criteria are that the relative percent difference (RPD) values for the duplicate sample analysis are less than 20% for aqueous samples and less than 35% for solid samples. All QC criteria were met. No qualifications are placed on the data.

#### B. Field Duplicate Analysis:

No field duplicate samples were submitted with this analytical package. No qualifications are placed on the data.

### 9. Matrix Spike/Matrix Spike Duplicate:

Sample FJD04-01-20190201-36-56 underwent MS/MSD analysis for the solid matrix. Recoveries of all spiked analytes were within the control limits provided in both the matrix spike and matrix spike duplicate with the following exceptions:

ANALYTE	MATRIX	%R/%R	QC LIMITS	AFFECTED SAMPLES	QUALIFIER FLAG
Acenaphthene Anthracene	Solid	45.7/OK OK/45.5	50-120% 50-123%	FJD04-01-20190201-36-56	UJL, acenaphthene & anthracene

#### 10. Internal Standards:

Areas of the six internal standards were within the control limits of a factor of 2 (-50% to +100%) and retention times were within 30 seconds from the associated 12 hour calibration standard. No qualifications are placed on the data.

#### 11. Laboratory Control Sample (LCS):

The laboratory analyzed an LCS and recoveries were within the control limits provided. No qualifications are placed on the data.

### 12. Target Compound Identification:

All target compounds reported by the laboratory met identification criteria of relative retention times (RRT) within 0.06 RRT units of the 12 hour standard and that all ions present in the standard mass spectrum were present in the sample mass spectrum and the abundance of these ions agreed within  $\pm$  20% of the standard. No qualifications are placed on the data.

#### 13. Target Compound Quantitation and Reporting Limits:

Concentrations of all reported compounds were correctly calculated.

Reported concentrations less than the reporting limit (RL) qualified "J" by the laboratory are qualified "JQ" to indicate that the result is less than the RL but greater than the method detection limit (MDL).

## 14. Laboratory Contact:

No laboratory contact was required.

### 15. Overall Assessment

The acenaphthene and anthracene results in one sample were estimated due to low MS or MSD recoveries.

Reported concentrations less than the RL qualified "J" by the laboratory were qualified "JQ" to indicate that the result is less than the RL but greater than the MDL.

The analytical data is acceptable for use with the qualifications listed above.

# DATA QUALITY ASSURANCE REVIEW

Frank J. Doyle Salvage Removal Action

SITE NAME

WORK ORDER NUMBER	20600.012.001.1175.01	TDD NUMBER	0001/18-175
PROJECT NUMBER		SDG NUMBER	HS19020082
Weston Solutions, Inc. (WES' 20600.012.001.1175.01; SDG No. analyzed for metals (As, Cd, Co, metals (Mn & Ag) by ALS Environ	HS19020082; Frank J. D. Fe, Pb, & Mn) and/or S	Ooyle Salvage Remo ynthetic Precipitation	val Action. Four samples were
	SAMPLE NUM	IBERS	
DRA04-20190201-12-56 FJD04-01-20190201-36-56	DRA05-20190201-12-	56 DRA	A07W-20190201-24-56
This data package was validated to USEPA National Functional Guidelines of Laboratory Program National Fu (April, 2016), Quality Assurance/Qualifications are listed in the followant REVIEWER Gloria J. Swit	elines for Organic Superfictor Inorganic Superfund nctional Guidelines for Duality Control Guidance g Times, Blanks, and Wwing discussion.	und Methods Data R Data Review (Janu High Resolution Sup e for Removal Active	Review (January, 2017), USEPA uary, 2017), USEPA Contract perfund Methods Data Review ities (September, 2011), and/or

### **Data Qualifiers**

Data Qualifier Definitions were supplied by the Office of Solid Waste and Emergency Response (September 1989) and are included in the Functional Guidelines. Data qualifiers may be combined (UJ, QJ) with the corresponding combination of meanings. Additional qualifiers may be added to provide additional, more specific information (JL, UB, QJK), modifying the meaning of the primary qualifier. Additional qualifiers utilized by WESTON are H, L, K, B, and Q.

U - The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation or detection limit, which has been adjusted for sample weight/sample volume, extraction volume, percent solids, sample dilution or other analysis specific parameters.

An additional qualifier, "B", may be appended to indicate that while the analyte was detected in the sample, the presence of the analyte may be attributable to blank contamination and the analyte is therefore considered undetected with the sample detection or quantitation limit for the analyte being elevated.

J - The analyte was analyzed for, but the associated numerical value may not be consistent with the amount actually present in the environmental sample or may not be consistent with the sample detection or quantitation limit. The value is an estimated quantity. The data should be seriously considered for decision-making and are usable for many purposes.

An additional qualifier will be appended to the "J" qualifier that indicates the bias in the reported results:

- L Low bias
- H High bias
- K Unknown bias
- Q The reported concentration is less than the sample quantitation limit for the specific analyte in the sample.

The L and H qualifier will only be employed when a single qualification is required. When more than one quality control parameter affects the analytical result and a conflict results in assigning a bias, the result will be flagged JK.

- R Quality Control indicates that data are unusable for all purposes. The analyte was analyzed for, but the presence or absence of the analyte has not been verified. Resampling and reanalysis are necessary for verification to confirm or deny the presence of an analyte.
- N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

#### METALS DATA EVALUATION

#### 1. Analytical Method:

Samples were prepared and analyzed for ICP metals using the procedures specified in SW-846 Method 6020A. Samples were extracted for SPLP metals using the procedure specified in SW-846 Method 1312.

### 2. Holding Times:

All samples met established holding time criteria of 180 days for ICP metals. No qualifications are placed on the data. All SPLP samples were extracted within the required holding time of less than 180 days for metals. No qualifications are placed on the data.

#### 3. Initial Calibration:

ICP initial calibration included a blank and five standards and initial calibration verification results fell within the control limits of 90% to 110% of the true values. No qualifications are placed on the data.

### 4. Continuing Calibration:

All ICP results fell within the control limits of 90% to 110% of the true values. No qualifications are placed on the data.

#### 5. CRDL Standard:

All results for the CRDL standard were within the control limits of 70% to 130% of the true values or the sample results were greater than the CRDL action level. No qualifications are placed on the data.

#### 6. Blanks:

#### A. Laboratory Blanks:

A method blank was prepared at the required frequency of every time samples were prepared/digested for each matrix or every 20 samples whichever is greater. Target analytes were not detected in the method and calibration blanks at concentrations that warrant blank action. No qualifications are placed on the data.

#### B. Field Blanks:

No field blank samples were submitted with this analytical package. No qualifications are placed on the data.

#### 7. ICP Interference Check:

All results for the interference check sample were within the control limits of 80% to 120% of the true values. No qualifications are placed on the data.

### 8. Laboratory Control Sample (LCS):

The recoveries for the LCS were within the control limits provided. No qualifications are placed on the data.

### 9. Duplicate Sample Analysis:

### A. Laboratory Duplicate Analysis:

Sample FJD04-01-20190201-36-56 underwent matrix spike/matrix spike duplicate (MS/MSD) analysis for Mn & Ag for the SPLP matrix. QC criteria are that the relative percent difference (RPD) values for the duplicate sample analysis are less than 20% for aqueous samples and less than 35% for solid samples. All QC criteria were met. No qualifications are placed on the data.

#### B. Field Duplicate Analysis:

No field duplicate samples were submitted with this analytical package. No qualifications are placed on the data.

#### 10. Spiked Sample Analysis:

Sample FJD04-01-20190201-36-56 underwent MS/MSD analysis for Mn & Ag for the SPLP matrix. The spike recoveries for the all analytes were within the 75%-125% QC recovery limits for analytes whose sample concentration did not exceed the spike concentration by a factor of 4 times or more. The post digestion spike recoveries were acceptable. No qualifications are placed on the data.

#### 11. ICP Serial Dilution:

Sample FJD04-01-20190201-36-56 underwent serial dilution for Mn & Ag for the SPLP matrix. The percent difference (%D) values for serial dilution analysis were within the QC limits of 10% for all analytes whose concentrations were greater than 50 times their method detection limit (MDL). No qualifications are placed on the data.

### 12. Sample Quantitation and Reporting Limits:

Concentrations of all reported analytes were correctly calculated.

Reported concentrations less than the reporting limit (RL) qualified "J" by the laboratory are qualified "JQ" to indicate that the result is less than the RL but greater than the MDL.

Manganese (total) in the all samples was analyzed at a 100-fold dilution. The reporting limit for manganese in these samples was elevated as a result of the dilution performed.

### 13. Laboratory Contact

No laboratory contact was required.

#### 14. Overall Assessment:

Reported concentrations less than the RL qualified "J" by the laboratory were qualified "JQ" to indicate that the result is less than the RL but greater than the MDL.

The analytical data is acceptable for use with the qualifications listed above.

Weston Solutions, Inc.

DRA04-20190201-12-56

Project: Sample ID: FJ Doyle RA/TX

Collection Date:

01-Feb-2019 15:13

**ANALYTICAL REPORT** 

WorkOrder:HS19020082 Lab ID:HS19020082-01

Matrix:Soil

	<del></del>			-	DIL LITION	DATE	
ANALYSES	RESULT QU	JAL MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED	
LOW-LEVEL PAHS	M	ethod:SW8270		Prep.SW3541 / 0	4-Feb-2019	Analyst: GEY	
Acenaphthene	U	0.00067	0.0044	mg/Kg-dry	1	04-Feb-2019 20:55	
Acenaphthylene	U	0.0013	0.0044	mg/Kg-dry	1	04-Feb-2019 20:55	
Anthracene	U	0.00067	0.0044	mg/Kg-dry	1	04-Feb-2019 20:55	
Benz(a)anthracene	U	0.0021	0.0044	mg/Kg-dry	1	04-Feb-2019 20:55	
Benzo(a)pyrene	U	0.0013	0.0044	mg/Kg-dry	1	04-Feb-2019 20:55	
Benzo(b)fluoranthene	U	0.0016	0.0044	mg/Kg-dry	1	04-Feb-2019 20:55	
Benzo(g,h,i)perylene	U	0.00093	0.0044	mg/Kg-dry	1	04-Feb-2019 20:55	
Benzo(k)fluoranthene	U	0.0012	0.0044	mg/Kg-dry	1	04-Feb-2019 20:55	
Chrysene	U	0.0011	0.0044	mg/Kg-dry	1	04-Feb-2019 20:55	
Dibenz(a,h)anthracene	U	0.0021	0.0044	mg/Kg-dry	1	04-Feb-2019 20:55	
Fluoranthene	U	0.0015	0.0044	mg/Kg-dry	1	04-Feb-2019 20:55	
Fluorene	U	0.0015	0.0044	mg/Kg-dry	1	04-Feb-2019 20:55	
Indeno(1,2,3-cd)pyrene	U	0.0011	0.0044	mg/Kg-dry	1	04-Feb-2019 20:55	
Naphthalene	Ŭ	0.00080	0.0044	mg/Kg-dry	1	04-Feb-2019 20:55	
Phenanthrene	U	0.0020	0.0044	mg/Kg-dry	1	04-Feb-2019 20:55	
Pyrene	Ü	0.00080	0.0044	mg/Kg-dry	1	04-Feb-2019 20:55	
Surr: 2-Fluorobiphenyl	70.3		43-125	%REC	1	04-Feb-2019 20:55	
Surr: 4-Terphenyl-d14	78.1	t venement til 1.1 se semmen men mer i 12.2 vilkti tilmannen, se semmenssklivennen var vil enemennennet.	32-125	%REC	1	04-Feb-2019 20:55	
Surr: Nitrobenzene-d5	65. <i>4</i>		37-125	%REC	1	04-Feb-2019 20:55	
PCBS BY SW8082A	М	ethod:SW8082		Prep:SW3541/36	65A / 04-Feb	-2019 Analyst: JBA	
Aroclor 1016	U	0.0056	0.022	mg/Kg-dry	1	04-Feb-2019 21:03	
Aroclor 1221	U	0.0075	0.022	mg/Kg-dry	1	04-Feb-2019 21:03	
Aroclor 1232	U	0.0060	0.022	mg/Kg-dry	1	04-Feb-2019 21:03	
Aroclor 1242	U	0.0079	0.022	mg/Kg-dry	1	04-Feb-2019 21:03	
Aroclor 1248	U	0.0079	0.022	mg/Kg-dry	1	04-Feb-2019 21:03	
Aroclor 1254	U	0.0063	0.022	mg/Kg-dry	1	04-Feb-2019 21:03	
Aroclor 1260	0.10	0.0053	0.022	mg/Kg-dry	1	04-Feb-2019 21:03	
Surr: Decachlorobiphenyl	111		54-143	%REC	1	04-Feb-2019 21:03	
Surr: Tetrachloro-m-xylene	104		50-140	%REC	1	04-Feb-2019 21:03	
METALS BY SW6020A	N	ethod:SW6020		Prep:SW3050A /	04-Feb-2019	Analyst: ALF	
Arsenic	3.42	0.0886	0.633	mg/Kg-dry	1	04-Feb-2019 22:02	
Cadmium	0.343	→ JQ 0.0342	0.633	mg/Kg-dry	1	04-Feb-2019 22:02	
Cobalt	4.54	0.0190	0.633	mg/Kg-dry	1	04-Feb-2019 22:02	
Iron	8,880	2.32	63.3	mg/Kg-dry	1	04-Feb-2019 22:02	
Lead	6.49	0.0164	0.633	mg/Kg-dry	1	04-Feb-2019 22:02	
Manganese	932	5.44	63.3	mg/Kg-dry	100	05-Feb-2019 13:03	
MOISTURE - ASTM D2216	Met	hod:ASTM D2216			144.50 11.00	Analyst: DFF	
Percent Moisture	25.3	0.0100	0.0100	wt%	1	04-Feb-2019 11:1:	

Note: See Qualifiers Page for a list of qualifiers and their explanation.



के अर्थात

Client: Project: Weston Solutions, Inc.

FJ Doyle RA/TX

Sample ID:

DRA05-20190201-12-56

Collection Date:

01-Feb-2019 14:51

**ANALYTICAL REPORT** 

WorkOrder:HS19020082 Lab ID:HS19020082-02

Matrix:Soil

ANALYSES	RESULT	QUAL	MDL	REPORT		DILUTION	DATE
OW-LEVEL PAHS			WIDL	LIMIT	UNITS	FACTOR	ANALYZED
	and the second second	Method	SW8270	40 1 100 Page 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Prep:SW3541 / 0	4-Feb-2019	Analyst: GEY
Acenaphthene	Ú		0.00066	0.0044	mg/Kg-dry	1	05-Feb-2019 12:41
Acenaphthylene	U	***************************************	0.0013	0.0044	mg/Kg-dry	1	05-Feb-2019 12:41
Anthracene	U		0.00066	0.0044	mg/Kg-dry	1	05-Feb-2019 12:41
Benz(a)anthracene	U	•	0.0021	0.0044	mg/Kg-dry	1	05-Feb-2019 12:41
Benzo(a)pyrene	U		0.0013	0.0044	mg/Kg-dry	1	05-Feb-2019 12:41
Benzo(b)fluoranthene	U	annet til til til til til til til til til ti	0.0016	0.0044	mg/Kg-dry	1	05-Feb-2019 12:41
Benzo(g,h,i)perylene	U		0.00092	0.0044	mg/Kg-dry	1	05-Feb-2019 12:41
Benzo(k)fluoranthene	U		0.0012	0.0044	mg/Kg-dry	1	05-Feb-2019 12:41
Chrysene	U		0.0011	0.0044	mg/Kg-dry	1	05-Feb-2019 12:41
Dibenz(a,h)anthracene	U		0.0021	0.0044	mg/Kg-dry	1	05-Feb-2019 12:41
luoranthene	U		0.0015	0.0044	mg/Kg-dry	1	05-Feb-2019 12:41
Fluorene	U		0.0015	0.0044	mg/Kg-dry	1	05-Feb-2019 12:41
ndeno(1,2,3-cd)pyrene	U		0.0011	0.0044	mg/Kg-dry	1	05-Feb-2019 12:41
Naphthalene	U		0.00079	0.0044	mg/Kg-dry	1	05-Feb-2019 12:41
Phenanthrene	U		0.0020	0.0044	mg/Kg-dry	1	05-Feb-2019 12:41
<sup>D</sup> yrene	U		0.00079	0.0044	mg/Kg-dry	1	05-Feb-2019 12:41
Surr: 2-Fluorobiphenyl	65.9			43-125	%REC	1	05-Feb-2019 12:41
Surr: 4-Terphenyl-d14	74.7			32-125	%REC	1	05-Feb-2019 12:41
Surr: Nitrobenzene-d5	61.8			37-125	%REC	1	05-Feb-2019 12:41
CBS BY SW8082A		Method	SW8082		Prep:SW3541/36	65A / 04-Feb	-2019 Analyst: JBA
Aroclor 1016	U		0.0055	0.022	mg/Kg-dry	1	04-Feb-2019 21:35
Aroclor 1221	U		0.0073	0.022	mg/Kg-dry	1	04-Feb-2019 21:35
Aroclor 1232	U		0.0059	0.022	mg/Kg-dry	1	04-Feb-2019 21:35
Aroclor 1242	U		0.0077	0.022	mg/Kg-dry	1	04-Feb-2019 21:35
Aroclor 1248	U		0.0077	0.022	mg/Kg-dry	1	04-Feb-2019 21:35
Aroclor 1254	U		0.0062	0.022	mg/Kg-dry	1	04-Feb-2019 21:35
Aroclor 1260	0.041		0.0052	0.022	mg/Kg-dry	1	04-Feb-2019 21:35
Surr: Decachlorobiphenyl	105			54-143	%REC	1	04-Feb-2019 21:35
Surr: Tetrachloro-m-xylene	101			50-140	%REC	1	04-Feb-2019 21:35
METALS BY SW6020A	100	Method	:SW6020		Prep:SW3050A /	04-Feb-2019	Analyst: ALR
Arsenic	18.8		0.0877	0.627	mg/Kg-dry	1	04-Feb-2019 22:04
Cadmium	0.685		0.0338	0.627	mg/Kg-dry	1	04-Feb-2019 22:04
Cobalt	9.01		0.0188	0.627	mg/Kg-dry	1	04-Feb-2019 22:04
ron	13,500	engagerer and a series which it governs	2.29	62.7	mg/Kg-dry	1	04-Feb-2019 22:04
_ead	61.4		0.0163	0.627	mg/Kg-dry	1	04-Feb-2019 22:04
<b>Manganese</b>	1,570		5.39	62.7	mg/Kg-dry	100	05-Feb-2019 13:05
MOISTURE - ASTM D2216	rojec	Method:A	STM D2216	an yang dagam pepungak sebagai		ران اور	Analyst: DFF
Percent Moisture	24.4	\$ 100 miles	0.0100	0.0100	wt%	1	04-Feb-2019 11:13

Note: See Qualifiers Page for a list of qualifiers and their explanation.



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Weston Solutions, Inc.

Project:

FJ Doyle RA/TX

Sample ID:

DRA07W-20190201-24-56

Collection Date:

01-Feb-2019 15:02

**ANALYTICAL REPORT** 

WorkOrder: HS19020082 Lab ID:HS19020082-03

Matrix:Soil

ANALYSES	RESULT	QUAL MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL PAHS		Method:SW8270	National Conference of the State of the Stat	Prep:SW3541 / (	04-Feb-2019	Analyst: GEY
Acenaphthene	U	0.00062	0.0041	mg/Kg-dry	1	05-Feb-2019 13:00
Acenaphthylene	U	0.0012	0.0041	mg/Kg-dry	1	05-Feb-2019 13:00
Anthracene	U	0.00062	0.0041	mg/Kg-dry	1	05-Feb-2019 13:00
Benz(a)anthracene	U	0.0020	0.0041	mg/Kg-dry	1	05-Feb-2019 13:00
Benzo(a)pyrene	U	0.0012	0.0041	mg/Kg-dry	1	05-Feb-2019 13:00
Benzo(b)fluoranthene	U	0.0015	0.0041	mg/Kg-dry	1	05-Feb-2019 13:00
Benzo(g,h,i)perylene	U	0.00087	0.0041	mg/Kg-dry	1	05-Feb-2019 13:00
Benzo(k)fluoranthene	U	0.0011	0.0041	mg/Kg-dry	1	05-Feb-2019 13:00
Chrysene	U	0.0010	0.0041	mg/Kg-dry	1	05-Feb-2019 13:00
Dibenz(a,h)anthracene	U	0.0020	0.0041	mg/Kg-dry	1	05-Feb-2019 13:00
Fluoranthene	U	0.0014	0.0041	mg/Kg-dry	1	05-Feb-2019 13:00
Fluorene	U	0.0014	0.0041	mg/Kg-dry	1	05-Feb-2019 13:00
Indeno(1,2,3-cd)pyrene	U	0.0010	0.0041	mg/Kg-dry	1	05-Feb-2019 13:00
Naphthalene	U	0.00075	0.0041	mg/Kg-dry	1	05-Feb-2019 13:00
Phenanthrene	U	0.0019	0.0041	mg/Kg-dry	1	05-Feb-2019 13:00
Pyrene	U	0.00075	0.0041	mg/Kg-dry	1	05-Feb-2019 13:00
Surr: 2-Fluorobiphenyl	60.3		43-125	%REC	1	05-Feb-2019 13:00
Surr: 4-Terphenyl-d14	78.9		32-125	%REC	1	05-Feb-2019 13:00
Surr: Nitrobenzene-d5	57.8		37-125	%REC	1	05-Feb-2019 13:00
PCBS BY SW8082A		Method:SW8082		Prep:SW3541/3	665 <b>A</b> / 04-Feb	-2019 Analyst: JBA
Aroclor 1016	U	0.0052	0.021	mg/Kg-dry	1	04-Feb-2019 22:54
Aroclor 1221	U	0.0070	0.021	mg/Kg-dry	1	04-Feb-2019 22:54
Aroclor 1232	U	0.0056	0.021	mg/Kg-dry	1	04-Feb-2019 22:54
Aroclor 1242	U	0.0074	0.021	mg/Kg-dry	1	04-Feb-2019 22:54
Aroclor 1248	U	0.0074	0.021	mg/Kg-dry	1	04-Feb-2019 22:54
Aroclor 1254	U	0.0059	0.021	mg/Kg-dry	1	04-Feb-2019 22:54
Aroclor 1260	0.045	0.0050	0.021	mg/Kg-dry	, 1	04-Feb-2019 22:54
Surr: Decachlorobiphenyl	110		54-143	%REC	1	04-Feb-2019 22:54
Surr: Tetrachloro-m-xylene	91.9		50-140	%REC	1	04-Feb-2019 22:54
METALS BY SW6020A	100000	Method:SW6020		Prep:SW3050A	/ 04-Feb-2019	Analyst: ALR
Arsenic	3.46	0.0801	0.572	mg/Kg-dŋ	, 1	04-Feb-2019 22:06
Cadmium	0.376	+ 10 0.0309	0.572	mg/Kg-dry	, 1	04-Feb-2019 22:06
Cobalt	4.25	0.0172	0.572	mg/Kg-dry	, 1	04-Feb-2019 22:06
lron	9,150	2.09	57.2	mg/Kg-dry	, 1	04-Feb-2019 22:06
Lead	5.86	0.0149	0.572	mg/Kg-dry	/ 1	04-Feb-2019 22:06
Manganese	1,300	4,92	57.2	mg/Kg-dr	, 100	05-Feb-2019 13:08
MOISTURE - ASTM D2216		Method:ASTM D221	6 500			Analyst: DFF
Percent Moisture	20.2	0.0100	0.0100	wt%	1	04-Feb-2019 11:13

Note: See Qualifiers Page for a list of qualifiers and their explanation.



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Weston Solutions, Inc.

Project:

FJ Doyle RA/TX

Sample ID: Collection Date: FJD04-01-20190201-36-56

01-Feb-2019 15:05

**ANALYTICAL REPORT** 

WorkOrder:HS19020082 Lab ID:HS19020082-04

Matrix:Soil

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL PAHS		Method:5	SW8270	and the second of the second o	Prep:SW3541 / 0	04-Feb-2019	Analyst: GEY
Acenaphthene	せ	VJL	0.00063	0.0042	mg/Kg-dry	1	04-Feb-2019 21:53
Acenaphthylene	Ü	13-17 (A.1000). ASSACTO COMPANYONO (B	0.0013	0.0042	mg/Kg-dry	1	04-Feb-2019 21:53
Anthracene	4	UJL	0.00063	0.0042	mg/Kg-dry	1	04-Feb-2019 21:53
Benz(a)anthracene	U	***************************************	0.0020	0.0042	mg/Kg-dry	1	04-Feb-2019 21:53
Benzo(a)pyrene	U		0.0013	0.0042	mg/Kg-dry	1	04-Feb-2019 21:53
Benzo(b)fluoranthene	0.0024	+ <b>J</b> Q	0.0015	0.0042	mg/Kg-dry	1	04-Feb-2019 21:50
Benzo(g,h,i)perylene	U		0.00089	0.0042	mg/Kg-dry	1	04-Feb-2019 21:53
Benzo(k)fluoranthene	U		0.0011	0.0042	mg/Kg-dry	1	04-Feb-2019 21:50
Chrysene	U		0.0010	0.0042	mg/Kg-dry	1	04-Feb-2019 21:53
Dibenz(a,h)anthracene	U	***************************************	0.0020	0.0042	mg/Kg-dry	1	04-Feb-2019 21:53
Fluoranthene	U		0.0014	0.0042	mg/Kg-dry	1	04-Feb-2019 21:53
Fluorene	U		0.0014	0.0042	mg/Kg-dry	1	04-Feb-2019 21:53
Indeno(1,2,3-cd)pyrene	U		0.0010	0.0042	mg/Kg-dry	1	04-Feb-2019 21:53
Naphthalene .	U		0.00076	0.0042	mg/Kg-dry	1	04-Feb-2019 21:53
Phenanthrene	U		0.0019	0.0042	mg/Kg-dry	1	04-Feb-2019 21:53
Pyrene	U		0.00076	0.0042	mg/Kg-dry	1	04-Feb-2019 21:5
Surr: 2-Fluorobiphenyl	56.5			43-125	%REC	1	04-Feb-2019 21:5
Surr: 4-Terphenyl-d14	110		2000-00-00-00-00-00-00-00-00-00-00-00-00	32-125	%REC	1	04-Feb-2019 21:5
Surr: Nitrobenzene-d5	60.9			37-125	%REC	1	04-Feb-2019 21:5
PCBS BY SW8082A		Method:	SW8082		Prep:SW3541/36	565A / 04-Feb	-2019 Analyst: JBA
Aroclor 1016	U		0.0053	0.021	mg/Kg-dry	1	05-Feb-2019 11:40
Aroclor 1221	U	<b>,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,</b>	0.0071	0.021	mg/Kg-dry	1	05-Feb-2019 11:4
Aroclor 1232	U		0.0057	0.021	mg/Kg-dry	1	05-Feb-2019 11:46
Aroclor 1242	0.067		0.0075	0.021	mg/Kg-dry	1	05-Feb-2019 11:40
Aroclor 1248	U		0.0075	0.021	mg/Kg-dry	1	05-Feb-2019 11:4
Aroclor 1254	U		0.0060	0.021	mg/Kg-dry	1	05-Feb-2019 11:4
Aroclor 1260	0.12		0.0051	0.021	mg/Kg-dry	1	05-Feb-2019 11:4
Surr: Decachlorobiphenyl	90.9			54-143	%REC	1	05-Feb-2019 11:4
Surr: Tetrachloro-m-xylene	64.6			50-140	%REC	1	05-Feb-2019 11:4
SPLP METALS BY SW6020A		Method:	SW6020	Leache: SW1312 / 05-Feb-2019	Prep:SW3010A	/ 05-Feb-2019	Analyst: JC
Manganese	0.0101		0.000700	0.00500	mg/L	1	05-Feb-2019 21:1
Silver	U	and the second of the second s	0.000200	0.00500	mg/L	1	05-Feb-2019 21:1
METALS BY SW6020A		Method:	SW6020	and the state of t	Prep:SW3050A	/ 04-Feb-2019	Analyst: ALI
Arsenic	4.63		0.0859	0.614	mg/Kg-dry		04-Feb-2019 22:0
Cadmium	0.451	4 JQ	0.0331	0.614	mg/Kg-dry	, 1	04-Feb-2019 22:0
Cobalt	7.07	~*·	0.0184	0.614	mg/Kg-dry	, 1	04-Feb-2019 22:0
Iron	14,900		2.25	61.4	mg/Kg-dry	, 1	04-Feb-2019 22:0
Lead	14.4		0.0160	0.614	mg/Kg-dry		04-Feb-2019 22:0
Manganese	1,150		5.28	61.4	mg/Kg-dry	·	05-Feb-2019 13:1

Note: See Qualifiers Page for a list of qualifiers and their explanation.



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7 of 27

Weston Solutions, Inc.

Project:

FJ Doyle RA/TX

Sample ID:

FJD04-01-20190201-36-56

Collection Date:

01-Feb-2019 15:05

**ANALYTICAL REPORT** 

WorkOrder:HS19020082

Lab ID:HS19020082-04

Matrix:Soil

ANALYSES	RESULT	QUAL M	DL REPORT LIMIT	UNITS	DILUTION	DATE ANALYZED
MOISTURE - ASTM D2216		Method:ASTM D2		\art0/	1	Analyst: DFF
Percent Moisture	21.3	0.01	0.0100	wt%	1	04-Feb-2019 1

Note: See Qualifiers Page for a list of qualifiers and their explanation.



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## DATA QUALITY ASSURANCE REVIEW

SHE NAME Frank J. Doyl	e Salvage Removal Actio	on		
WORK ORDER NUMBER	20600.012.001.1175.01	TDD NUMBER	R 0001/18-175	
PROJECT NUMBER		SDG NUMBER	HS19020259	
Weston Solutions, Inc. (WEST 20600.012.001.1175.01; SDG No. analyzed for Polychlorinated Biphe (SPLP) PCBs by ALS Environment	HS19020259; Frank J. Denyl Compounds (PCBs)	oyle Salvage Ren and/or Synthetic	noval Action. Three samples were	
	SAMPLE NUM	IBERS		
DRA08S-20190205-18-56	DRA08S-20190205-18	3-57 F	FJD04-04-20190205-48-56	
This data package was validated to USEPA National Functional Guide National Functional Guidelines for Laboratory Program National Functional Functional Functional Functional Functional Functional Protocol for Holding qualifications are listed in the follows:	lines for Organic Superfi or Inorganic Superfund actional Guidelines for I Quality Control Guidance g Times, Blanks, and V	und Methods Date Data Review (J High Resolution e for Removal Ac	a Review (January, 2017), USEPA anuary, 2017), USEPA Contract Superfund Methods Data Review tivities (September, 2011), and/or	
REVIEWER Gloria J. Swit	alski	DATE	March 5, 2019	

#### **Data Qualifiers**

Data Qualifier Definitions were supplied by the Office of Solid Waste and Emergency Response (September 1989) and are included in the Functional Guidelines. Data qualifiers may be combined (UJ, QJ) with the corresponding combination of meanings. Additional qualifiers may be added to provide additional, more specific information (JL, UB, QJK), modifying the meaning of the primary qualifier. Additional qualifiers utilized by WESTON are H, L, K, B, and Q.

U - The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation or detection limit, which has been adjusted for sample weight/sample volume, extraction volume, percent solids, sample dilution or other analysis specific parameters.

An additional qualifier, "B", may be appended to indicate that while the analyte was detected in the sample, the presence of the analyte may be attributable to blank contamination and the analyte is therefore considered undetected with the sample detection or quantitation limit for the analyte being elevated.

J - The analyte was analyzed for, but the associated numerical value may not be consistent with the amount actually present in the environmental sample or may not be consistent with the sample detection or quantitation limit. The value is an estimated quantity. The data should be seriously considered for decision-making and are usable for many purposes.

An additional qualifier will be appended to the "J" qualifier that indicates the bias in the reported results:

- L Low bias
- H High bias
- K Unknown bias
- Q The reported concentration is less than the sample quantitation limit for the specific analyte in the sample.

The L and H qualifier will only be employed when a single qualification is required. When more than one quality control parameter affects the analytical result and a conflict results in assigning a bias, the result will be flagged JK.

- R Quality Control indicates that data are unusable for all purposes. The analyte was analyzed for, but the presence or absence of the analyte has not been verified. Resampling and reanalysis are necessary for verification to confirm or deny the presence of an analyte.
- N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

#### PCB FRACTION EVALUATION

### 1. Analytical Method:

Samples were prepared and analyzed for PCBs using the procedures specified in **SW-846 Method 8082A**. Samples were extracted for SPLP PCBs using the procedure specified in **SW-846 Method 1312**.

#### 2. Holding Time:

The samples were received within the recommended ≤6°C NFG limit. All samples were extracted within the required holding time of less than 1 year after collection. Analysis of the samples was conducted within 40 days of extraction. All SPLP samples were extracted within the required holding time of less than 14 days for PCBs. No qualifications are placed on the data.

#### 3. Initial Calibration:

The correlation coefficient of the multipoint initial calibration was greater than or equal to 0.995 or the percent relative standard deviation (%RSD) was less than or equal to 20%. No qualifications are placed on the data.

### 4. Continuing Calibration:

The continuing calibration check was analyzed at the required frequency and met recovery requirements of 75%-125% [percent difference (%D) was less than 25%]. No qualifications are placed on the data.

#### 5. Blanks:

#### A. Laboratory Blanks:

A method blank was prepared at the required frequency of every time samples were extracted for each matrix and concentration or every 20 samples whichever is greater. No target analytes were detected in the method blanks at concentrations that warrant blank action. No qualifications are placed on the data.

#### B. Field Blanks:

No field blank samples were submitted with this analytical package. No qualifications are placed on the data.

#### 6. Surrogates:

All recoveries of the surrogates were within the control limits provided. No qualifications are placed on the data.

### 7. Matrix Spikes/Matrix Spike Duplicates (MS/MSD):

Sample DRA08S-20190205-18-56 underwent matrix spike/matrix spike duplicate (MS/MSD) analysis for the solid matrix. Sample FJD04-04-20190205-48-56 underwent MS analysis for the SPLP matrix. Recoveries of all spiked analytes were within the control limits provided. No qualifications are placed on the data.

#### 8. Duplicates:

### A. Laboratory Duplicate Analysis:

Sample DRA08S-20190205-18-56 underwent MS/MSD analysis for the solid matrix. QC criteria are that the relative percent difference (RPD) values for the duplicate sample analysis are less than 20% for aqueous samples and less than 35% for solid samples. All criteria were met. No qualifications are placed on the data.

#### B. Field Duplicate Analysis:

The following sample pair was submitted as field duplicates for the solid matrix: DRA08S-20190205-18-56/DRA08S-20190205-18-57. QC criteria are that the RPD values for the field duplicate sample analysis be less than 30% for aqueous samples and less than 50% for solid samples for concentrations greater than five times the reporting limit (RL). For sample concentrations less than five times the RL, the QC criteria are that the absolute difference between the samples is less than two times the RL for aqueous samples or less than 3.5 times the RL for the solid matrix. All QC criteria were met. No qualifications are placed on the data.

### 9. Laboratory Control Sample (LCS)/Laboratory Control Sample Duplicate (LCSD):

The laboratory analyzed an LCS and/or LCSD and recoveries and relative percent difference (RPD) values were within the control limits provided. No qualifications are placed on the data.

#### 10. Target Compound Identification, Quantitation, and Reporting Limits:

Concentrations of all reported compounds were correctly calculated.

The %D between the column results were within the acceptance limits (≤25). No qualifications are placed on the data.

#### 11. Laboratory Contact:

No laboratory contact was required.

#### 12. Overall Assessment:

The analytical data is acceptable for use without qualification.

## DATA QUALITY ASSURANCE REVIEW

SHE NAME Frank J. Doy	ie Salvage Removal Actio	on		
WORK ORDER NUMBER	20600.012.001.1175.01	TDD NUMBER	0001/18-175	
PROJECT NUMBER		SDG NUMBER	HS19020259	
Weston Solutions, Inc. (WES 20600.012.001.1175.01; SDG No. analyzed for Polynuclear Aromatic below.	HS19020259; Frank J. De	oyle Salvage Rem	noval Action. Three samples were	
	SAMPLE NUM	IBERS		
DRA08S-20190205-18-56	DRA08S-20190205-18	3-57 F.	FJD04-04-20190205-48-56	
This data package was validated to USEPA National Functional Guidelines of Laboratory Program National Fu (April, 2016), Quality Assurance/9, the Regional Protocol for Holdin qualifications are listed in the follows:	elines for Organic Superfi for Inorganic Superfund nctional Guidelines for I Quality Control Guidance g Times, Blanks, and V	und Methods Data Data Review (Ja High Resolution S of for Removal Act	n Review (January, 2017), USEPA Anuary, 2017), USEPA Contract Superfund Methods Data Review tivities (September, 2011), and/or	
REVIEWER Gloria J. Swit	talski	DATE	March 5, 2019	

#### **Data Qualifiers**

Data Qualifier Definitions were supplied by the Office of Solid Waste and Emergency Response (September 1989) and are included in the Functional Guidelines. Data qualifiers may be combined (UJ, QJ) with the corresponding combination of meanings. Additional qualifiers may be added to provide additional, more specific information (JL, UB, QJK), modifying the meaning of the primary qualifier. Additional qualifiers utilized by WESTON are H, L, K, B, and Q.

U - The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation or detection limit, which has been adjusted for sample weight/sample volume, extraction volume, percent solids, sample dilution or other analysis specific parameters.

An additional qualifier, "B", may be appended to indicate that while the analyte was detected in the sample, the presence of the analyte may be attributable to blank contamination and the analyte is therefore considered undetected with the sample detection or quantitation limit for the analyte being elevated.

J - The analyte was analyzed for, but the associated numerical value may not be consistent with the amount actually present in the environmental sample or may not be consistent with the sample detection or quantitation limit. The value is an estimated quantity. The data should be seriously considered for decision-making and are usable for many purposes.

An additional qualifier will be appended to the "J" qualifier that indicates the bias in the reported results:

- L Low bias
- H High bias
- K Unknown bias
- Q The reported concentration is less than the sample quantitation limit for the specific analyte in the sample.

The L and H qualifier will only be employed when a single qualification is required. When more than one quality control parameter affects the analytical result and a conflict results in assigning a bias, the result will be flagged JK.

- R Quality Control indicates that data are unusable for all purposes. The analyte was analyzed for, but the presence or absence of the analyte has not been verified. Resampling and reanalysis are necessary for verification to confirm or deny the presence of an analyte.
- N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

#### PAH FRACTION EVALUATION

### 1. Analytical Method:

Samples were prepared and analyzed using the procedures specified in SW-846 Method 8270D selective ion monitoring (SIM).

### 2. Holding Time:

The samples were received within the recommended  $\leq$ 6°C NFG limit. All samples were extracted within the required holding time of less than 7 days for waters and less than 14 days for solids/wastes after collection. Analysis of the samples was conducted within 40 days of extraction. No qualifications are placed on the data.

### 3. Tuning/Performance:

DFTPP tuning of the mass spectrometer(s) was conducted at the required frequency and results were within the required criteria. No qualifications are placed on the data.

#### 4. Initial Calibration:

All individual relative response factors (RRFs) and average RRFs for the initial calibration (IC) were greater than the compound dependent (see Table 34 of National Functional Guidelines) control limits. All percent relative standard deviations (%RSDs) were less than the compound dependent (see Table 34 of National Functional Guidelines) control limits or the correlation coefficient was > 0.990. No qualifications are placed on the data.

### 5. Continuing Calibration:

All individual RRFs for the initial calibration verification (ICV) and continuing calibration (CC) standards were greater than the compound dependent (see Table 34 of National Functional Guidelines) control limits. All percent differences (%Ds) were less than the compound dependent (see Table 34 of National Functional Guidelines) control limits. No qualifications are placed on the data.

#### 6. Blanks:

#### A. Laboratory Blanks:

A method blank was prepared at the required frequency of every time samples were extracted for each matrix and concentration or every 20 samples whichever is greater. Target analytes were not detected in the method at concentrations that warrant blank action. No qualifications are placed on the data.

#### B. Field Blanks:

No field blank samples were submitted with this analytical package. No qualifications are placed on the data.

#### 7. System Monitoring Compounds (SMC):

All recoveries of the system monitoring compounds (surrogates) were within the control limits provided. No qualifications are placed on the data.

#### 8. Duplicates:

### A. Laboratory Duplicate Analysis:

Sample FJD04-04-20190205-48-56 underwent matrix spike/matrix spike duplicate (MS/MSD) analysis for the solid matrix. QC criteria are that the relative percent difference (RPD) values for the duplicate sample analysis are less than 20% for aqueous samples and less than 35% for solid samples. All QC criteria were met. No qualifications are placed on the data.

#### B. Field Duplicate Analysis:

The following sample pair was submitted as field duplicates for the solid matrix: DRA08S-20190205-18-56/DRA08S-20190205-18-57. QC criteria are that the RPD values for the field duplicate sample analysis be less than 30% for aqueous samples and less than 50% for solid samples for concentrations greater than five times the reporting limit (RL). For sample concentrations less than five times the RL, the QC criteria are that the absolute difference between the samples is less than two times the RL for aqueous samples or less than 3.5 times the RL for the solid matrix. All QC criteria were met. No qualifications are placed on the data.

#### 9. Matrix Spike/Matrix Spike Duplicate:

Sample FJD04-04-20190205-48-56 underwent MS/MSD analysis for the solid matrix. Recoveries of all spiked analytes were within the control limits provided in both the matrix spike and matrix spike duplicate. No qualifications are placed on the data.

#### 10. Internal Standards:

Areas of the six internal standards were within the control limits of a factor of 2 (-50% to +100%) and retention times were within 30 seconds from the associated 12 hour calibration standard. No qualifications are placed on the data.

### 11. Laboratory Control Sample (LCS):

The laboratory analyzed an LCS and recoveries were within the control limits provided. No qualifications are placed on the data.

#### 12. Target Compound Identification:

All target compounds reported by the laboratory met identification criteria of relative retention times (RRT) within 0.06 RRT units of the 12 hour standard and that all ions present in the standard mass spectrum were present in the sample mass spectrum and the abundance of these ions agreed within  $\pm$  20% of the standard. No qualifications are placed on the data.

#### 13. Target Compound Quantitation and Reporting Limits:

Concentrations of all reported compounds were correctly calculated.

Reported concentrations less than the RL qualified "J" by the laboratory are qualified "JQ" to indicate that the result is less than the RL but greater than the method detection limit (MDL).

## 14. Laboratory Contact:

No laboratory contact was required.

### 15. Overall Assessment

Reported concentrations less than the RL qualified "J" by the laboratory were qualified "JQ" to indicate that the result is less than the RL but greater than the MDL.

The analytical data is acceptable for use with the qualifications listed above.

# DATA QUALITY ASSURANCE REVIEW

SITE NAME	Frank J. Doy	rank J. Doyle Salvage Removal Action				
WORK ORDER NUMBER PROJECT NUMBER		20600.012.001.1175.01	TDD NUMBER	0001/18-175 HS19020259		
			SDG NUMBER			
20600.012.001.1175 analyzed for metals	5.01; SDG No. s (As, Cd, Co,	HS19020259; Frank J. Do	oyle Salvage Remo ynthetic Precipitat	v for Work Order Number oval Action. Three samples were tion Leaching Procedure (SPLP)		
		SAMPLE NUM	BERS			
DRA08S-20190205-	-18-56	DRA08S-20190205-18	3-57 FJ	D04-04-20190205-48-56		
		_				
USEPA National Functional National Functional Laboratory Program (April, 2016), Qual	inctional Guide al Guidelines f m National Fu ity Assurance/Ç col for Holdin	elines for Organic Superfi for Inorganic Superfund nctional Guidelines for I Quality Control Guidance g Times, Blanks, and V	ind Methods Data Data Review (Jai High Resolution S for Removal Acti	cations were achieved, following <i>Review</i> (January, 2017), <i>USEPA</i> nuary, 2017), <i>USEPA Contract</i> uperfund Methods Data Review ivities (September, 2011), and/or (April 13, 1989). Specific data		
REVIEWER	Gloria I Swit	talski	DATE	March 5 2019		

### **Data Qualifiers**

Data Qualifier Definitions were supplied by the Office of Solid Waste and Emergency Response (September 1989) and are included in the Functional Guidelines. Data qualifiers may be combined (UJ, QJ) with the corresponding combination of meanings. Additional qualifiers may be added to provide additional, more specific information (JL, UB, QJK), modifying the meaning of the primary qualifier. Additional qualifiers utilized by WESTON are H, L, K, B, and Q.

U - The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation or detection limit, which has been adjusted for sample weight/sample volume, extraction volume, percent solids, sample dilution or other analysis specific parameters.

An additional qualifier, "B", may be appended to indicate that while the analyte was detected in the sample, the presence of the analyte may be attributable to blank contamination and the analyte is therefore considered undetected with the sample detection or quantitation limit for the analyte being elevated.

J - The analyte was analyzed for, but the associated numerical value may not be consistent with the amount actually present in the environmental sample or may not be consistent with the sample detection or quantitation limit. The value is an estimated quantity. The data should be seriously considered for decision-making and are usable for many purposes.

An additional qualifier will be appended to the "J" qualifier that indicates the bias in the reported results:

- L Low bias
- H High bias
- K Unknown bias
- Q The reported concentration is less than the sample quantitation limit for the specific analyte in the sample.

The L and H qualifier will only be employed when a single qualification is required. When more than one quality control parameter affects the analytical result and a conflict results in assigning a bias, the result will be flagged JK.

- R Quality Control indicates that data are unusable for all purposes. The analyte was analyzed for, but the presence or absence of the analyte has not been verified. Resampling and reanalysis are necessary for verification to confirm or deny the presence of an analyte.
- N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

#### METALS DATA EVALUATION

#### 1. Analytical Method:

Samples were prepared and analyzed for ICP metals using the procedures specified in SW-846 Method 6020A. Samples were extracted for SPLP metals using the procedure specified in SW-846 Method 1312.

### 2. Holding Times:

All samples met established holding time criteria of 180 days for ICP metals. No qualifications are placed on the data. All SPLP samples were extracted within the required holding time of less than 180 days for metals. No qualifications are placed on the data.

#### 3. Initial Calibration:

ICP initial calibration included a blank and five standards and initial calibration verification results fell within the control limits of 90% to 110% of the true values. No qualifications are placed on the data.

### 4. Continuing Calibration:

All ICP results fell within the control limits of 90% to 110% of the true values. No qualifications are placed on the data.

#### 5. CRDL Standard:

All results for the CRDL standard were within the control limits of 70% to 130% of the true values or the sample results were greater than the CRDL action level. No qualifications are placed on the data.

#### 6. Blanks:

#### A. Laboratory Blanks:

A method blank was prepared at the required frequency of every time samples were prepared/digested for each matrix or every 20 samples whichever is greater. Target analytes were not detected in the method and calibration blanks at concentrations that warrant blank action. No qualifications are placed on the data.

#### B. Field Blanks:

No field blank samples were submitted with this analytical package. No qualifications are placed on the data.

#### 7. ICP Interference Check:

All results for the interference check sample were within the control limits of 80% to 120% of the true values. No qualifications are placed on the data.

### 8. Laboratory Control Sample (LCS):

The recoveries for the LCS were within the control limits provided. No qualifications are placed on the data.

#### 9. Duplicate Sample Analysis:

#### A. Laboratory Duplicate Analysis:

No sample from this analytical package underwent matrix spike/matrix spike duplicate (MS/MSD) analysis for ICP metals for the solid matrix. No qualifications are placed on the data.

#### B. Field Duplicate Analysis:

The following sample pair was submitted as field duplicates for the solid matrix: DRA08S-20190205-18-56/DRA08S-20190205-18-57. QC criteria are that the relative percent difference (RPD) values for the field duplicate sample analysis be less than 30% for aqueous samples and less than 50% for solid samples for concentrations greater than five times the reporting limit (RL). For sample concentrations less than five times the RL, the QC criteria are that the absolute difference between the samples is less than two times the RL for aqueous samples or less than 3.5 times the RL for the solid matrix. All QC criteria were met. No qualifications are placed on the data.

#### 10. Spiked Sample Analysis:

No sample from this analytical package underwent MS/MSD analysis for ICP metals for the solid or SPLP matrix. No qualifications are placed on the data.

#### 11. ICP Serial Dilution:

No sample from this analytical package underwent serial dilution for the solid or SPLP matrix for ICP metals. No qualifications are placed on the data.

#### 12. Sample Quantitation and Reporting Limits:

Concentrations of all reported analytes were correctly calculated.

Reported concentrations less than the RL qualified "J" by the laboratory are qualified "JQ" to indicate that the result is less than the RL but greater than the method detection limit (MDL).

Iron and/or manganese (total) in all samples were analyzed at a 50-fold dilution. The reporting limits for iron and/or manganese (total) in these samples were elevated as a result of the dilutions performed.

#### 13. Laboratory Contact

No laboratory contact was required.

#### 14. Overall Assessment:

Reported concentrations less than the RL qualified "J" by the laboratory were qualified "JQ" to indicate that the result is less than the RL but greater than the MDL.

The analytical data is acceptable for use with the qualifications listed above.

Weston Solutions, Inc.

Project:

FJ Doyle RA/TX

Sample ID:

DRA08S-20190205-18-56

Collection Date:

05-Feb-2019 14:20

ANALYTICAL REPORT

WorkOrder:HS19020259 Lab ID:HS19020259-01

Matrix:Soil

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL PAHS		Method:	SW8270		Prep:SW3541 / 0	6-Feb-2019	Analyst: GEY
Acenaphthene	U	4 4 11 - C 10000 10 11 11 11 11 11 11 11 11 11 11	0.00062	0.0041	mg/Kg-dry	1	06-Feb-2019 20:05
Acenaphthylene	U	(m. c.	0.0012	0.0041	mg/Kg-dry	1	06-Feb-2019 20:05
Anthracene	U		0.00062	0.0041	mg/Kg-dry	1	06-Feb-2019 20:05
Benz(a)anthracene	U		0.0020	0.0041	mg/Kg-dry	1 .	06-Feb-2019 20:05
Benzo(a)pyrene	0.0014	J J	ষ্  0.0012	0.0041	mg/Kg-dry	1	06-Feb-2019 20:05
Benzo(b)fluoranthene	0.0026	ال لي	<b>₽</b> 0.0015	0.0041	mg/Kg-dry	1	06-Feb-2019 20:05
Benzo(g,h,i)perylene	·U	,,,	0.00087	0.0041	mg/Kg-dry	1	06-Feb-2019 20:05
Benzo(k)fluoranthene	0.0017	J.J.C	্ব 0.0011	0.0041	mg/Kg-dry	1	06-Feb-2019 20:05
Chrysene	0.0024	et 30	0.00099	0.0041	mg/Kg-dry	1	06-Feb-2019 20:05
Dibenz(a,h)anthracene	U	***************************************	0.0020	0.0041	mg/Kg-dry	1	06-Feb-2019 20:05
Fluoranthene	0.0020	TI	S 0.0014	0.0041	mg/Kg-dry	1	06-Feb-2019 20:05
Fluorene	U		0.0014	0.0041	mg/Kg-dry	1	06-Feb-2019 20:05
Indeno(1,2,3-cd)pyrene	U		0.00099	0.0041	mg/Kg-dry	1	06-Feb-2019 20:05
Naphthalene	U		0.00075	0.0041	mg/Kg-dry	1	06-Feb-2019 20:05
Phenanthrene	· U		0.0019	0.0041	mg/Kg-dry	1	06-Feb-2019 20:05
Pyrene	0.0021	J. J.	0.00075	0.0041	mg/Kg-dry	1	06-Feb-2019 20:05
Surr: 2-Fluorobiphenyl	69.1		•	43-125	%REC	1	06-Feb-2019 20:05
Surr: 4-Terphenyl-d14	75.8			32-125	%REC	1	06-Feb-2019 20:05
Surr: Nitrobenzene-d5	60.0			37-125	%REC	1	06-Feb-2019 20:05
PCBS BY SW8082A	To the second	Method:	SW8082		Prep:SW3541/36	65A / 06-Feb	-2019 Analyst: JBA
Aroclor 1016	U		0.0052	0.021	mg/Kg-dry	1	06-Feb-2019 19:20
Aroclor 1221	U		0.0069	0.021	mg/Kg-dry	1	06-Feb-2019 19:20
Aroclor 1232	U		0.0056	0.021	mg/Kg-dry	1	06-Feb-2019 19:20
Aroclor 1242	U		0.0073	0.021	mg/Kg-dry	1	06-Feb-2019 19:20
Aroclor 1248	U		0.0073	0.021	mg/Kg-dry	1	06-Feb-2019 19:20
Aroclor 1254	U	***************************************	0.0058	0.021	mg/Kg-dry	1	06-Feb-2019 19:20
Aroclor 1260	0.087		0.0050	0.021	mg/Kg-dry	1	06-Feb-2019 19:20
Surr: Decachlorobiphenyl	90.7			54-143	%REC	1	06-Feb-2019 19:20
Surr: Tetrachloro-m-xylene	74.4			50-140	%REC	1	06-Feb-2019 19:20
METALS BY SW6020A		Method:	SW6020		Prep:SW3050A /	06-Feb-2019	Analyst: JCJ
Arsenic	5.75		0.0822	0.587	mg/Kg-dry		06-Feb-2019 17:44
Cadmium	0.380	15 J		0.587	mg/Kg-dry		06-Feb-2019 17:44
Cobalt	14.2		0.0176	0.587	mg/Kg-dry		06-Feb-2019 17:44
lron	30,800		107	2940	mg/Kg-dry		07-Feb-2019 13:11
Lead	23.6		0.0153	0.587	mg/Kg-dry		06-Feb-2019 17:44
Manganese	2,250	*	2.52	29.4	mg/Kg-dry		07-Feb-2019 13:11
MOISTURE - ASTM D2216		Method: A S	STM D2216				Analyst: DFF
			J				ruidiyat UFF

Note: See Qualifiers Page for a list of qualifiers and their explanation.





Client: Project: Weston Solutions, Inc.

FJ Doyle RA/TX

Sample ID:

DRA08S-20190205-18-57

Collection Date:

05-Feb-2019 14:20

**ANALYTICAL REPORT** 

WorkOrder:HS19020259 Lab ID:HS19020259-02

Matrix:Soil

LOW-LEVEL PAHS Acenaphthene Acenaphthylene Anthracene Benz(a)anthracene	U U	Method:SW8					
Acenaphthylene Anthracene	-		3270	1000000	Prep:SW3541 /	06-Feb-2019	Analyst: GEY
Anthracene	U	0.0	00062	0.0041	mg/Kg-dry	1	06-Feb-2019 20:24
		0	.0012	0.0041	mg/Kg-dry	1	06-Feb-2019 20:24
Penz/a)anthracene	U	0.0	00062	0.0041	mg/Kg-dry	1	06-Feb-2019 20:24
Jenz(a)anunacene	U	0	.0020	0.0041	mg/Kg-dry	1 .	06-Feb-2019 20:24
Benzo(a)pyrene	U	0	.0012	0.0041	mg/Kg-dry	1	06-Feb-2019 20:24
Benzo(b)fluoranthene	U	0	.0015	0.0041	mg/Kg-dry	1	06-Feb-2019 20:24
Benzo(g,h,i)perylene	U	0.0	00087	0.0041	mg/Kg-dry	1	06-Feb-2019 20:24
Benzo(k)fluoranthene	U	0	.0011	0.0041	mg/Kg-dry	1	06-Feb-2019 20:24
Chrysene	U	0	.0010	0.0041	mg/Kg-dry	1	06-Feb-2019 20:24
Dibenz(a,h)anthracene	U	0	.0020	0.0041	mg/Kg-dry	1	06-Feb-2019 20:24
Fluoranthene	U	0	.0014	0.0041	mg/Kg-dry	1	06-Feb-2019 20:24
Fluorene	U	0	.0014	0.0041	mg/Kg-dry	1	06-Feb-2019 20:24
Indeno(1,2,3-cd)pyrene	U	0	.0010	0.0041	mg/Kg-dry	1	06-Feb-2019 20:24
Naphthalene	0.0081	0.0	00075	0.0041	mg/Kg-dr	, 1	06-Feb-2019 20:24
Phenanthrene	U	0	.0019	0.0041	mg/Kg-dry	1	06-Feb-2019 20:24
Pyrene	0.00077	4JQ 0.0	00075	0.0041	mg/Kg-dr	<i>y</i> 1	06-Feb-2019 20:24
Surr: 2-Fluorobiphenyl	64.1	•		43-125	%REC	1	06-Feb-2019 20:24
Surr: 4-Terphenyl-d14	70.6	· · · · · · · · · · · · · · · · · · ·		32-125	%REC	1	06-Feb-2019 20:24
Surr: Nitrobenzene-d5	58.9			37-125	%REC	1	06-Feb-2019 20:24
PCBS BY SW8082A		Method:SW8	3082		Prep SW3541/3	665A / 06-Feb	-2019 Analyst: JBA
Aroclor 1016	U	0	.0052	0.021	mg/Kg-dry	1	06-Feb-2019 21:43
Aroclor 1221	U	0	.0070	0.021	mg/Kg-dry	1	06-Feb-2019 21:43
Aroclor 1232	U	0	0.0056	0.021	mg/Kg-dry	1	06-Feb-2019 21:43
Aroclor 1242	U	0	.0074	0.021	mg/Kg-dry	1 ,	06-Feb-2019 21:43
Aroclor 1248	U	0	0.0074	0.021	mg/Kg-dry	1	06-Feb-2019 21:43
Aroclor 1254	U	0	.0059	0.021	mg/Kg-dry	1	06-Feb-2019 21:43
Arocior 1260	0.085	0	.0050	0.021	mg/Kg-dr	y 1	06-Feb-2019 21:43
Surr: Decachlorobiphenyl	95.1			54-143	%REC	1	06-Feb-2019 21:43
Surr: Tetrachloro-m-xylene	87.5			50-140	%REC	1	06-Feb-2019 21:43
METALS BY SW6020A		Method:SW6	5020		Prep:SW3050A	/ 06-Feb-2019	Analyst: JCJ
Arsenic	5.49		.0829	0.592	mg/Kg-dr	<b>/</b> 1	06-Feb-2019 17:46
Cadmium	0.381	4JQ 0	.0320	0.592	mg/Kg-dr		06-Feb-2019 17:46
Cobalt	13.4	•	.0178	0.592	mg/Kg-dr	/ 1	06-Feb-2019 17:46
Iron	30,300		108	2960	mg/Kg-dr	, 50	07-Feb-2019 13:13
Lead	20.9	0	.0154	0.592	mg/Kg-dr	<i>j</i> 1	06-Feb-2019 17:46
Manganese	2,110		2.55	29.6	mg/Kg-dr	, 50	07-Feb-2019 13:13
MOISTURE - ASTM D2216	Ň	lethod:ASTM	D2216				Analyst: DFF
Percent Moisture	20.2		.0100	0.0100	wt%	1	06-Feb-2019 14:45

Note: See Qualifiers Page for a list of qualifiers and their explanation.



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Client: Project: Weston Solutions, Inc.

FJ Doyle RA/TX

Sample ID:

FJD04-04-20190205-48-56

Collection Date:

05-Feb-2019 14:28

**ANALYTICAL REPORT** 

WorkOrder:HS19020259 Lab ID:HS19020259-03

Matrix:Soil

ANALYSES	RESULT	QUAL MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL PAHS		Method:SW8270	Marines Statement	Prep SW3541 / (	06-Feb-2019	Analyst: GEY
Acenaphthene	U	0.00063	0.0042	mg/Kg-dry	1	06-Feb-2019 20:43
Acenaphthylene	U	0.0013	0.0042	mg/Kg-dry	1	06-Feb-2019 20:43
Anthracene	U	0.00063	0.0042	mg/Kg-dry	1	06-Feb-2019 20:43
Benz(a)anthracene	Ū	0.0020	0.0042	mg/Kg-dry	1	06-Feb-2019 20:43
Benzo(a)pyrene	U	0.0013	0.0042	mg/Kg-dry	1	06-Feb-2019 20:43
Benzo(b)fluoranthene	U	0.0015	0.0042	mg/Kg-dry	1	06-Feb-2019 20:43
Benzo(g,h,i)perylene	U	0.00089	0.0042	mg/Kg-dry	1	06-Feb-2019 20:43
Benzo(k)fluoranthene	U	0.0011	0.0042	mg/Kg-dry	1	06-Feb-2019 20:43
Chrysene	U	0.0010	0.0042	mg/Kg-dry	1	06-Feb-2019 20:43
Dibenz(a,h)anthracene	U	0.0020	0.0042	mg/Kg-dry	1	06-Feb-2019 20:43
Fluoranthene	U	0.0014	0.0042	mg/Kg-dry	1	06-Feb-2019 20:43
Fluorene	U	0.0014	0.0042	mg/Kg-dry	1	06-Feb-2019 20:43
Indeno(1,2,3-cd)pyrene	U	0.0010	0.0042	mg/Kg-dry	1	06-Feb-2019 20:43
Naphthalene	0.0019	+JQ 0.00076	0.0042	mg/Kg-dry	1	06-Feb-2019 20:43
Phenanthrene	U	0.0019	0.0042	mg/Kg-dry	1	06-Feb-2019 20:43
Pyrene	U	0.00076	0.0042	mg/Kg-dry	1	06-Feb-2019 20:43
Surr: 2-Fluorobiphenyl	70.3		43-125	%REC	1	06-Feb-2019 20:43
Surr: 4-Terphenyl-d14	75.5		32-125	%REC	1	06-Feb-2019 20:43
Surr: Nitrobenzene-d5	59.3		37-125	%REC	1	06-Feb-2019 20:43
SPLP PCBS BY SW8082A	N	lethod:SW1312/8082	Leache:SW1312 / 07-Feb-	2019 Prep:SW3510C/ 2019	3665A / 07-Fe	<sup>b-</sup> Analyst: JBA
Aroclor 1016	U	0.10	0.52	ug/L	1	07-Feb-2019 16:54
Aroclor 1221	U	0.10	0.52	ug/L	1	07-Feb-2019 16:54
Aroclor 1232	U	0.10	0.52	ug/L	1	07-Feb-2019 16:54
Aroclor 1242	U	0.10	0.52	ug/L	1	07-Feb-2019 16:54
Aroclor 1248	U	0.10	0.52	ug/L	1	07-Feb-2019 16:54
Aroclor 1254	U	0.10	0.52	ug/L	1	07-Feb-2019 16:54
Aroclor 1260	U	0.10	0.52	ug/L	1	07-Feb-2019 16:54
Surr: Decachlorobiphenyl	90.7	CONTROL CONTRO	30-150	%REC	1	07-Feb-2019 16:54
Surr: Tetrachloro-m-xylene	95.6		30-150	%REC	1	07-Feb-2019 16:54
PCBS BY SW8082A		Method:SW8082		Prep SW3541/36	65A / 06-Feb	2019 Analyst: JBA
Aroclor 1016	U	0.0053	0.021	mg/Kg-dry		06-Feb-2019 22:14
Aroclor 1221	U	0.0071	0.021	mg/Kg-dry	1	06-Feb-2019 22:14
Aroclor 1232	U	0.0057	0.021	mg/Kg-dry	1	06-Feb-2019 22:14
Aroclor 1242	U.	0.0075	0.021	mg/Kg-dry	1	06-Feb-2019 22:14
Aroclor 1248	U	0.0075	0.021	mg/Kg-dry	1	06-Feb-2019 22:14
Aroclor 1254	Ú	0.0059	0.021	mg/Kg-dry	1	06-Feb-2019 22:14
Aroclor 1260	0.029	0.0051	0.021	mg/Kg-dry	1	06-Feb-2019 22:14
Surr: Decachlorobiphenyl	92.4		54-143	%REC	1	06-Feb-2019 22:14
Surr: Tetrachloro-m-xylene	69.9		50-140	%REC	1	06-Feb-2019 22:14
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Note: See Qualifiers Page for a list of qualifiers and their explanation.



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Weston Solutions, Inc.

Project:

FJ Doyle RA/TX

Sample ID: Collection Date:

05-Feb-2019 14:28

FJD04-04-20190205-48-56

**ANALYTICAL REPORT** 

WorkOrder:HS19020259 Lab ID:HS19020259-03

Matrix:Soil

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
SPLP METALS BY SW6020A		Method	:SW6020	Leache: SW1312 / 07-Feb-2019	Prep:SW3010A /	07-Feb-2019	Analyst: JHD
Manganese	0.0586		0.000700	0.00500	mg/L	1	07-Feb-2019 17:28
Silver	Ū		0.000200	0.00500	mg/L	1	07-Feb-2019 17:28
METALS BY SW6020A		Method	:SW6020		Prep:SW3050A /	06-Feb-2019	Analyst: JCJ
Arsenic	4.45		0.0832	0.595	mg/Kg-dry	1	06-Feb-2019 17:48
Cadmium	0.357	لآ لا	<b>汉</b> 0.0321	0.595	mg/Kg-dry	1	06-Feb-2019 17:48
Cobalt	7.81		0.0178	0.595	mg/Kg-dry	1	06-Feb-2019 17:48
Iron	15,400		2.18	59.5	mg/Kg-dry	1	06-Feb-2019 17:48
Lead	12.4		0.0155	0.595	mg/Kg-dry	1	06-Feb-2019 17:48
Manganese	1,070		2.56	29.7	mg/Kg-dry	50	07-Feb-2019 13:16
MOISTURE - ASTM D2216	ı	/lethod:A	STM D2216			- 6.6	Analyst: DFF
Percent Moisture	21.1		0.0100	0.0100	wt%	1	06-Feb-2019 14:45

Note: See Qualifiers Page for a list of qualifiers and their explanation.



\$ 3/5/19

### DATA QUALITY ASSURANCE REVIEW

SITE NAME	Frank J. Doy	le Salvage Removal Actio	n	
WORK ORDER	R NUMBER	20600.012.001.1175.01	TDD NUMBER	0001/18-175
PROJECT NUM	MBER		SDG NUMBER	HS19020713
20600.012.001.1173 analyzed for Polych	5.01; SDG No. nlorinated Biph	HS19020713; Frank J. D	oyle Salvage Rem and/or Synthetic P	for Work Order Number oval Action. Four samples were recipitation Leaching Procedure
		SAMPLE NUM	BERS	
DRA07E-20190213	-48-56	DRA07E-20190213-48	3-57 DF	RA08N-20190213-18-56
FJD04-02-20190213	3-48-56	_		
		-		
				eations were achieved, following
National Functional Laboratory Program (April, 2016), Qual	al Guidelines f m National Fu lity Assurance/9 col for Holdin	for Inorganic Superfund Inctional Guidelines for H Quality Control Guidance Ig Times, Blanks, and V	Data Review (Jai High Resolution Si for Removal Acti	Review (January, 2017), USEPA nuary, 2017), USEPA Contract uperfund Methods Data Review vities (September, 2011), and/or (April 13, 1989). Specific data
REVIEWER	Gloria I Swi	talski	DATE	March 11 2019

#### **Data Qualifiers**

Data Qualifier Definitions were supplied by the Office of Solid Waste and Emergency Response (September 1989) and are included in the Functional Guidelines. Data qualifiers may be combined (UJ, QJ) with the corresponding combination of meanings. Additional qualifiers may be added to provide additional, more specific information (JL, UB, QJK), modifying the meaning of the primary qualifier. Additional qualifiers utilized by WESTON are H, L, K, B, and Q.

U - The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation or detection limit, which has been adjusted for sample weight/sample volume, extraction volume, percent solids, sample dilution or other analysis specific parameters.

An additional qualifier, "B", may be appended to indicate that while the analyte was detected in the sample, the presence of the analyte may be attributable to blank contamination and the analyte is therefore considered undetected with the sample detection or quantitation limit for the analyte being elevated.

J - The analyte was analyzed for, but the associated numerical value may not be consistent with the amount actually present in the environmental sample or may not be consistent with the sample detection or quantitation limit. The value is an estimated quantity. The data should be seriously considered for decision-making and are usable for many purposes.

An additional qualifier will be appended to the "J" qualifier that indicates the bias in the reported results:

- L Low bias
- H High bias
- K Unknown bias
- Q The reported concentration is less than the sample quantitation limit for the specific analyte in the sample.

The L and H qualifier will only be employed when a single qualification is required. When more than one quality control parameter affects the analytical result and a conflict results in assigning a bias, the result will be flagged JK.

- R Quality Control indicates that data are unusable for all purposes. The analyte was analyzed for, but the presence or absence of the analyte has not been verified. Resampling and reanalysis are necessary for verification to confirm or deny the presence of an analyte.
- N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

#### PCB FRACTION EVALUATION

#### 1. Analytical Method:

Samples were prepared and analyzed for PCBs using the procedures specified in **SW-846 Method 8082A**. Samples were extracted for SPLP PCBs using the procedure specified in **SW-846 Method 1312**.

#### 2. Holding Time:

The samples were received within the recommended ≤6°C NFG limit. All samples were extracted within the required holding time of less than 1 year after collection. Analysis of the samples was conducted within 40 days of extraction. All SPLP samples were extracted within the required holding time of less than 14 days for PCBs. No qualifications are placed on the data.

#### 3. Initial Calibration:

The correlation coefficient of the multipoint initial calibration was greater than or equal to 0.995 or the percent relative standard deviation (%RSD) was less than or equal to 20%. No qualifications are placed on the data.

#### 4. Continuing Calibration:

The continuing calibration check was analyzed at the required frequency and met recovery requirements of 75%-125% [percent difference (%D) was less than 25%]. No qualifications are placed on the data.

#### 5. Blanks:

#### A. Laboratory Blanks:

A method blank was prepared at the required frequency of every time samples were extracted for each matrix and concentration or every 20 samples whichever is greater. No target analytes were detected in the method blanks at concentrations that warrant blank action. No qualifications are placed on the data.

#### B. Field Blanks:

No field blank samples were submitted with this analytical package. No qualifications are placed on the data.

#### 6. Surrogates:

All recoveries of the surrogates were within the control limits provided. No qualifications are placed on the data.

#### 7. Matrix Spikes/Matrix Spike Duplicates (MS/MSD):

Sample DRA08N-20190213-18-56 underwent MS/MSD analysis for the solid matrix. Recoveries of all spiked analytes were within the control limits provided in both the matrix spike and matrix spike duplicate. No qualifications are placed on the data. Sample FJD04-02-20190213-48-56 underwent MS analysis for the SPLP matrix. Recoveries of all spiked analytes were within the control limits provided. No qualifications are placed on the data.

#### 8. Duplicates:

#### A. Laboratory Duplicate Analysis:

Sample DRA08N-20190213-18-56 underwent MS/MSD analysis for the solid matrix. QC criteria are that the relative percent difference (RPD) values for the duplicate sample analysis are less than 20% for aqueous samples and less than 35% for solid samples. All QC criteria were met. No qualifications are placed on the data.

#### B. Field Duplicate Analysis:

The following sample pair was submitted as field duplicates for the solid matrix: DRA07E-20190213-48-56/DRA07E-20190213-48-57. QC criteria are that the RPD values for the field duplicate sample analysis be less than 30% for aqueous samples and less than 50% for solid samples for concentrations greater than five times the reporting limit (RL). For sample concentrations less than five times the RL, the QC criteria are that the absolute difference between the samples is less than two times the RL for aqueous samples or less than 3.5 times the RL for the solid matrix. All QC criteria were met. No qualifications are placed on the data.

#### 9. Laboratory Control Sample (LCS)/Laboratory Control Sample Duplicate (LCSD):

The laboratory analyzed an LCS and/or LCSD and recoveries and relative percent difference (RPD) values were within the control limits provided. No qualifications are placed on the data.

#### 10. Target Compound Identification, Quantitation, and Reporting Limits:

Concentrations of all reported compounds were correctly calculated.

The %D between the column results were within the acceptance limits (≤25). No qualifications are placed on the data.

Reported concentrations less than the RL qualified "J" by the laboratory are qualified "JQ" to indicate that the result is less than the RL but greater than the method detection limit (MDL).

#### 11. Laboratory Contact:

The laboratory was contacted on March 7, 2019 regarding duplicate results for all Aroclor for the SPLP sample. An acceptable response was received on March 8, 2019.

#### 12. Overall Assessment:

Reported concentrations less than the RL qualified "J" by the laboratory were qualified "JQ" to indicate that the result is less than the RL but greater than the MDL.

The analytical data is acceptable for use with the qualifications listed above.

### DATA QUALITY ASSURANCE REVIEW

SHE NAME Frank J. Doy	e Salvage Removal Actio	<u>n</u>	
WORK ORDER NUMBER	20600.012.001.1175.01	TDD NUMBER	0001/18-175
PROJECT NUMBER		SDG NUMBER	HS19020713
Weston Solutions, Inc. (WES' 20600.012.001.1175.01; SDG No. analyzed for Polynuclear Aromatic below.	HS19020713; Frank J. D	oyle Salvage Remo	val Action. Four samples wer
	SAMPLE NUM	BERS	
DRA07E-20190213-48-56	DRA07E-20190213-48	-57 DR	A08N-20190213-18-56
FJD04-02-20190213-48-56			
	-		_
	-		
This data package was validated to USEPA National Functional Guidelines for Laboratory Program National Functional Functional Functional Functional Functional Functional Functional Functional Functional Protocol for Holding qualifications are listed in the follows:	lines for Organic Superfuor Inorganic Superfund nctional Guidelines for Foundity Control Guidance Times, Blanks, and V	nd Methods Data R Data Review (Jan ligh Resolution Su for Removal Activ	Review (January, 2017), USEP, uary, 2017), USEPA Contraction of the Co
REVIEWER Gloria I Swit	alski	DATE	March 7 2019

#### **Data Qualifiers**

Data Qualifier Definitions were supplied by the Office of Solid Waste and Emergency Response (September 1989) and are included in the Functional Guidelines. Data qualifiers may be combined (UJ, QJ) with the corresponding combination of meanings. Additional qualifiers may be added to provide additional, more specific information (JL, UB, QJK), modifying the meaning of the primary qualifier. Additional qualifiers utilized by WESTON are H, L, K, B, and Q.

U - The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation or detection limit, which has been adjusted for sample weight/sample volume, extraction volume, percent solids, sample dilution or other analysis specific parameters.

An additional qualifier, "B", may be appended to indicate that while the analyte was detected in the sample, the presence of the analyte may be attributable to blank contamination and the analyte is therefore considered undetected with the sample detection or quantitation limit for the analyte being elevated.

J - The analyte was analyzed for, but the associated numerical value may not be consistent with the amount actually present in the environmental sample or may not be consistent with the sample detection or quantitation limit. The value is an estimated quantity. The data should be seriously considered for decision-making and are usable for many purposes.

An additional qualifier will be appended to the "J" qualifier that indicates the bias in the reported results:

- L Low bias
- H High bias
- K Unknown bias
- Q The reported concentration is less than the sample quantitation limit for the specific analyte in the sample.

The L and H qualifier will only be employed when a single qualification is required. When more than one quality control parameter affects the analytical result and a conflict results in assigning a bias, the result will be flagged JK.

- R Quality Control indicates that data are unusable for all purposes. The analyte was analyzed for, but the presence or absence of the analyte has not been verified. Resampling and reanalysis are necessary for verification to confirm or deny the presence of an analyte.
- N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

#### PAH FRACTION EVALUATION

#### 1. Analytical Method:

Samples were prepared and analyzed using the procedures specified in SW-846 Method 8270D selective ion monitoring (SIM).

#### 2. Holding Time:

The samples were received within the recommended  $\leq$ 6°C NFG limit. All samples were extracted within the required holding time of less than 7 days for waters and less than 14 days for solids/wastes after collection. Analysis of the samples was conducted within 40 days of extraction. No qualifications are placed on the data.

#### 3. Tuning/Performance:

DFTPP tuning of the mass spectrometer(s) was conducted at the required frequency and results were within the required criteria. No qualifications are placed on the data.

#### 4. Initial Calibration:

All individual relative response factors (RRFs) and average RRFs for the initial calibration (IC) were greater than the compound dependent (see Table 34 of National Functional Guidelines) control limits. All percent relative standard deviations (%RSDs) were less than the compound dependent (see Table 34 of National Functional Guidelines) control limits or the correlation coefficient was > 0.990. No qualifications are placed on the data.

#### 5. Continuing Calibration:

All individual RRFs for the initial calibration verification (ICV) and continuing calibration (CC) standards were greater than the compound dependent (see Table 34 of National Functional Guidelines) control limits. All percent differences (%Ds) were less than the compound dependent (see Table 34 of National Functional Guidelines) control limits. No qualifications are placed on the data.

#### 6. Blanks:

#### A. Laboratory Blanks:

A method blank was prepared at the required frequency of every time samples were extracted for each matrix and concentration or every 20 samples whichever is greater. Target analytes were not detected in the method at concentrations that warrant blank action. No qualifications are placed on the data.

#### B. Field Blanks:

No field blank samples were submitted with this analytical package. No qualifications are placed on the data.

#### 7. System Monitoring Compounds (SMC):

All recoveries of the system monitoring compounds (surrogates) were within the control limits provided. No qualifications are placed on the data.

#### 8. Duplicates:

#### A. Laboratory Duplicate Analysis:

Sample DRA08N-20190213-18-56 underwent matrix spike/matrix spike duplicate (MS/MSD) analysis for the solid matrix. QC criteria are that the relative percent difference (RPD) values for the duplicate sample analysis are less than 20% for aqueous samples and less than 35% for solid samples. All QC criteria were met. No qualifications are placed on the data.

#### B. Field Duplicate Analysis:

The following sample pair was submitted as field duplicates for the solid matrix: DRA07E-20190213-48-56/DRA07E-20190213-48-57. QC criteria are that the RPD values for the field duplicate sample analysis be less than 30% for aqueous samples and less than 50% for solid samples for concentrations greater than five times the reporting limit (RL). For sample concentrations less than five times the RL, the QC criteria are that the absolute difference between the samples is less than two times the RL for aqueous samples or less than 3.5 times the RL for the solid matrix. All QC criteria were met. No qualifications are placed on the data.

#### 9. Matrix Spike/Matrix Spike Duplicate:

Sample DRA08N-20190213-18-56 underwent MS/MSD analysis for the solid matrix. Recoveries of all spiked analytes were within the control limits provided in both the matrix spike and matrix spike duplicate. No qualifications are placed on the data.

#### 10. Internal Standards:

Areas of the six internal standards were within the control limits of a factor of 2 (-50% to +100%) and retention times were within 30 seconds from the associated 12 hour calibration standard. No qualifications are placed on the data.

#### 11. Laboratory Control Sample (LCS):

The laboratory analyzed an LCS and recoveries were within the control limits provided. No qualifications are placed on the data.

#### 12. Target Compound Identification:

All target compounds reported by the laboratory met identification criteria of relative retention times (RRT) within 0.06 RRT units of the 12 hour standard and that all ions present in the standard mass spectrum were present in the sample mass spectrum and the abundance of these ions agreed within  $\pm$  20% of the standard. No qualifications are placed on the data.

#### 13. Target Compound Quantitation and Reporting Limits:

Concentrations of all reported compounds were correctly calculated.

Reported concentrations less than the RL qualified "J" by the laboratory are qualified "JQ" to indicate that the result is less than the RL but greater than the method detection limit (MDL).

### 14. Laboratory Contact:

No laboratory contact was required.

#### 15. Overall Assessment

Reported concentrations less than the RL qualified "J" by the laboratory were qualified "JQ" to indicate that the result is less than the RL but greater than the MDL.

The analytical data is acceptable for use with the qualifications listed above.

### DATA QUALITY ASSURANCE REVIEW

Frank J. Doyle Salvage Removal Action

SITE NAME

WORK ORDER NUMBER	20600.012.001.1175.01	TDD NUMBER	0001/18-175
PROJECT NUMBER		SDG NUMBER	HS19020713
Weston Solutions, Inc. (WEST 20600.012.001.1175.01; SDG No. analyzed for metals (As, Cd, Co, metals (Mn & Ag) by ALS Environ	HS19020713; Frank J. D Fe, Pb, & Mn) and/or Symental. Sample numbers	oyle Salvage Removenthetic Precipitation are listed below.	val Action. Four samples were
	SAMPLE NUM	BEKS	
DRA07E-20190213-48-56 FJD04-02-20190213-48-56	DRA07E-20190213-48	3-57 DRA	408N-20190213-18-56
This data package was validated to USEPA National Functional Guide National Functional Guidelines for Laboratory Program National Functional Functional Functional Functional Functional Protocol for Holding qualifications are listed in the follows:	lines for Organic Superfuor for Inorganic Superfund inctional Guidelines for I Quality Control Guidance g Times, Blanks, and V	and Methods Data Re Data Review (Janu High Resolution Sup for Removal Activi	eview (January, 2017), USEPA ary, 2017), USEPA Contract perfund Methods Data Review ties (September, 2011), and/or
REVIEWER Gloria J. Swit	alski	DATE	March 7, 2019

#### **Data Qualifiers**

Data Qualifier Definitions were supplied by the Office of Solid Waste and Emergency Response (September 1989) and are included in the Functional Guidelines. Data qualifiers may be combined (UJ, QJ) with the corresponding combination of meanings. Additional qualifiers may be added to provide additional, more specific information (JL, UB, QJK), modifying the meaning of the primary qualifier. Additional qualifiers utilized by WESTON are H, L, K, B, and Q.

U - The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation or detection limit, which has been adjusted for sample weight/sample volume, extraction volume, percent solids, sample dilution or other analysis specific parameters.

An additional qualifier, "B", may be appended to indicate that while the analyte was detected in the sample, the presence of the analyte may be attributable to blank contamination and the analyte is therefore considered undetected with the sample detection or quantitation limit for the analyte being elevated.

J - The analyte was analyzed for, but the associated numerical value may not be consistent with the amount actually present in the environmental sample or may not be consistent with the sample detection or quantitation limit. The value is an estimated quantity. The data should be seriously considered for decision-making and are usable for many purposes.

An additional qualifier will be appended to the "J" qualifier that indicates the bias in the reported results:

- L Low bias
- H High bias
- K Unknown bias
- Q The reported concentration is less than the sample quantitation limit for the specific analyte in the sample.

The L and H qualifier will only be employed when a single qualification is required. When more than one quality control parameter affects the analytical result and a conflict results in assigning a bias, the result will be flagged JK.

- R Quality Control indicates that data are unusable for all purposes. The analyte was analyzed for, but the presence or absence of the analyte has not been verified. Resampling and reanalysis are necessary for verification to confirm or deny the presence of an analyte.
- N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

#### METALS DATA EVALUATION

#### 1. Analytical Method:

Samples were prepared and analyzed for ICP metals using the procedures specified in SW-846 Method 6020A. Samples were extracted for SPLP metals using the procedure specified in SW-846 Method 1312.

#### 2. Holding Times:

All samples met established holding time criteria of 180 days for ICP metals. No qualifications are placed on the data. All SPLP samples were extracted within the required holding time of less than 180 days for metals. No qualifications are placed on the data.

#### 3. Initial Calibration:

ICP initial calibration included a blank and five standards and initial calibration verification results fell within the control limits of 90% to 110% of the true values. No qualifications are placed on the data.

#### 4. Continuing Calibration:

All ICP results fell within the control limits of 90% to 110% of the true values. No qualifications are placed on the data.

#### 5. CRDL Standard:

All results for the CRDL standard were within the control limits of 70% to 130% of the true values or the sample results were greater than the CRDL action level. No qualifications are placed on the data.

#### 6. Blanks:

#### A. Laboratory Blanks:

A method blank was prepared at the required frequency of every time samples were prepared/digested for each matrix or every 20 samples whichever is greater. Target analytes were not detected in the method and calibration blanks at concentrations that warrant blank action. No qualifications are placed on the data.

#### B. Field Blanks:

No field blank samples were submitted with this analytical package. No qualifications are placed on the data.

#### 7. ICP Interference Check:

All results for the interference check sample were within the control limits of 80% to 120% of the true values. No qualifications are placed on the data.

#### 8. Laboratory Control Sample (LCS):

The recoveries for the LCS were within the control limits provided. No qualifications are placed on the data.

#### 9. Duplicate Sample Analysis:

#### A. Laboratory Duplicate Analysis:

Sample DRA08N-20190213-18-56 underwent matrix spike/matrix spike duplicate (MS/MSD) analysis for ICP metals for the solid matrix. QC criteria are that the relative percent difference (RPD) values for the duplicate sample analysis are less than 20% for aqueous samples and less than 35% for solid samples. All OC criteria were met. No qualifications are placed on the data.

#### B. Field Duplicate Analysis:

The following sample pair was submitted as field duplicates for the solid matrix: DRA07E-20190213-48-56/DRA07E-20190213-48-57. QC criteria are that the RPD values for the field duplicate sample analysis be less than 30% for aqueous samples and less than 50% for solid samples for concentrations greater than five times the reporting limit (RL). For sample concentrations less than five times the RL, the QC criteria are that the absolute difference between the samples is less than two times the RL for aqueous samples or less than 3.5 times the RL for the solid matrix. All QC criteria were met. No qualifications are placed on the data.

#### 10. Spiked Sample Analysis:

Sample DRA08N-20190213-18-56 underwent MS/MSD analysis for ICP metals for the solid matrix. The spike recoveries for the all analytes were within the 75%-125% QC recovery limits for analytes whose sample concentration did not exceed the spike concentration by a factor of 4 times or more. The post digestion spike recoveries were acceptable. No qualifications are placed on the data.

#### 11. ICP Serial Dilution:

Sample DRA08N-20190213-18-56 underwent serial dilution for the solid matrix. The percent difference (%D) values for serial dilution analysis were within the QC limits of 10% for all analytes whose concentrations were greater than 50 times their method detection limit (MDL). No qualifications are placed on the data.

#### 12. Sample Quantitation and Reporting Limits:

Concentrations of all reported analytes were correctly calculated.

Reported concentrations less than the RL qualified "J" by the laboratory are qualified "JQ" to indicate that the result is less than the RL but greater than the MDL.

Iron and/or manganese (total) in all samples were analyzed at a 50 or 100-fold dilution. The reporting limits for iron and/or manganese (total) in these samples were elevated as a result of the dilutions performed.

#### 13. Laboratory Contact

No laboratory contact was required.

#### 14. Overall Assessment:

Reported concentrations less than the RL qualified "J" by the laboratory were qualified "JQ" to indicate that the result is less than the RL but greater than the MDL.

The analytical data is acceptable for use with the qualifications listed above.

Weston Solutions, Inc.

DRA07E-20190213-48-56

Project:

FJ Doyle RA/TX

Sample ID: Collection Date:

13-Feb-2019 14:53

**ANALYTICAL REPORT** 

WorkOrder:HS19020713 Lab ID:HS19020713-01

Matrix:Soil

Collection Date.	10-1 60-2019 1	1.00			Watrix.3011			
ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED	
LOW-LEVEL PAHS	The state of the s	Method	SW8270		Prep.SW3541 / 1	4-Feb-2019	Analyst: GEY	
Acenaphthene	U		0.00062	0.0041	mg/Kg-dry	1	15-Feb-2019 15:33	
Acenaphthylene	U		0.0012	0.0041	mg/Kg-dry	1	15-Feb-2019 15:33	
Anthracene	U		0.00062	0.0041	mg/Kg-dry	1	15-Feb-2019 15:33	
Benz(a)anthracene	U		0.0020	0.0041	mg/Kg-dry	1	15-Feb-2019 15:33	
Benzo(a)pyrene	U		0.0012	0.0041	mg/Kg-dry	1	15-Feb-2019 15:33	
Benzo(b)fluoranthene	U	***************************************	0.0015	0.0041	mg/Kg-dry	1	15-Feb-2019 15:33	
Benzo(g,h,i)perylene	0.0012	13	又 0.00087	0.0041	mg/Kg-dry	1	15-Feb-2019 15:33	
Benzo(k)fluoranthene	U		0.0011	0.0041	mg/Kg-dry	1	15-Feb-2019 15:33	
Chrysene	U		0.00099	0.0041	mg/Kg-dry	1	15-Feb-2019 15:33	
Dibenz(a,h)anthracene	U		0.0020	0.0041	mg/Kg-dry	1	15-Feb-2019 15:33	
Fluoranthene	U		0.0014	0.0041	mg/Kg-dry	1	15-Feb-2019 15:33	
Fluorene	U		0.0014	0.0041	mg/Kg-dry	1	15-Feb-2019 15:33	
Indeno(1,2,3-cd)pyrene	U		0.00099	0.0041	mg/Kg-dry	1	15-Feb-2019 15:33	
Naphthalene	U		0.00074	0.0041	mg/Kg-dry	1	15-Feb-2019 15:33	
Phenanthrene	U		0.0019	0.0041	mg/Kg-dry	1	15-Feb-2019 15:33	
Pyrene '	U	•	0.00074	0.0041	mg/Kg-dry	1	15-Feb-2019 15:33	
Surr: 2-Fluorobiphenyl	<b>55.4</b>			43-125	%REC	1	15-Feb-2019 15:33	
Surr: 4-Terphenyl-d14	63.3			32-125	%REC	1	15-Feb-2019 15:33	
Surr: Nitrobenzene-d5	52.2			37-125	%REC	1	15-Feb-2019 15:33	
PCBS BY SW8082A		Method	:SW8082		Prep:SW3541/36	65A / 14-Feb	-2019 Analyst: JBA	
Aroclor 1016	0.0092	ال الم	<b>≨</b> 0.0052	0.021	mg/Kg-dry	1	14-Feb-2019 22:42	
Arodor 1221	U	,	0.0069	0.021	mg/Kg-dry	1	14-Feb-2019 22:42	
Aroclor 1232	U		0.0056	0.021	mg/Kg-dry	1	14-Feb-2019 22:42	
Aroclor 1242	U		0.0073	0.021	mg/Kg-dry	1	14-Feb-2019 22:42	
Aroclor 1248	U		0.0073	0.021	mg/Kg-dry	1	14-Feb-2019 22:42	
Aroclor 1254	U		0.0058	0.021	mg/Kg-dry	1	14-Feb-2019 22:42	
Aroclor 1260	0.068		0.0049	0.021	mg/Kg-dry	1	14-Feb-2019 22:42	
Surr: Decachlorobiphenyl	87.9			54-143	%REC	1	14-Feb-2019 22:42	
Surr: Tetrachloro-m-xylene	69.0			50-140	%REC	1	14-Feb-2019 22:42	
METALS BY SW6020A		Method	:SW6020	A70 A70	Prep SW3050A /	14-Feb-2019	Analyst: JHD	
Arsenic	5.93		0.0801	0.572	mg/Kg-dry	1	15-Feb-2019 00:10	
Cadmium	0.523	4.2	<b>\$</b> 0.0309	0.572	mg/Kg-dry	1	15-Feb-2019 00:10	
Cobalt	6.27		0.0172	0.572	mg/Kg-dry	1	15-Feb-2019 00:10	
Iron	11,700		2.09	57,2	mg/Kg-dry	1	15-Feb-2019 00:10	
Lead	7.81	1	0.0149	0.572	mg/Kg-dry	1	15-Feb-2019 00:10	
Manganese	1,100		4.92	57.2	mg/Kg-dry	100	15-Feb-2019 14:17	
MOISTURE - ASTM D2216	-1	Wethod:A	STM D2216	50 (10 <b>50</b> 10 10 10 10 10 10 10 10 10 10 10 10 10			Analyst: DFF	
Percent Moisture	19.4		0.0100	0.0100	wt%	1	14-Feb-2019 11:52	

Note: See Qualifiers Page for a list of qualifiers and their explanation.





Weston Solutions, Inc.

Project:

FJ Doyle RA/TX

Sample ID:

DRA07E-20190213-48-57

Collection Date:

13-Feb-2019 14:53

**ANALYTICAL REPORT** 

WorkOrder:HS19020713 Lab ID:HS19020713-02

Matrix:Soil

ANALYSES	RESULT (	QUAL MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL PAHS		Method:SW8270	A Company	Prep:SW3541 /	4-Feb-2019	Analyst: GEY
Acenaphthene	U	0.00062	0.0041	mg/Kg-dry	1	15-Feb-2019 15:52
Acenaphthylene	U	0.0012	0.0041	mg/Kg-dry	1	15-Feb-2019 15:52
Anthracene	U	0.00062	0.0041	mg/Kg-dry	1	15-Feb-2019 15:52
Benz(a)anthracene	Ü	0.0020	0.0041	mg/Kg-dry	1	15-Feb-2019 15:52
Benzo(a)pyrene	U	0.0012	0.0041	mg/Kg-dry	1	15-Feb-2019 15:52
Benzo(b)fluoranthene	Ü	0.0015	0.0041	mg/Kg-dry	1	15-Feb-2019 15:52
Benzo(g,h,i)perylene	U	0.00087	0.0041	mg/Kg-dry	1	15-Feb-2019 15:52
Benzo(k)fluoranthene	U	0.0011	0.0041	mg/Kg-dry	1	15-Feb-2019 15:52
Chrysene	U	0.00099	0.0041	mg/Kg-dry	1	15-Feb-2019 15:52
Dibenz(a,h)anthracene	U	0.0020	0.0041	mg/Kg-dry	1	15-Feb-2019 15:52
Fluoranthene	U	0.0014	0.0041	mg/Kg-dry	1	15-Feb-2019 15:52
Fluorene	U	0.0014	0.0041	mg/Kg-dry	1	15-Feb-2019 15:52
Indeno(1,2,3-cd)pyrene	U	0.00099	0.0041	mg/Kg-dry	1	15-Feb-2019 15:52
Naphthalene	U	0.00074	0.0041	mg/Kg-dry	1	15-Feb-2019 15:52
Phenanthrene	U	0.0019	0.0041	mg/Kg-dry	1	15-Feb-2019 15:52
Pyrene	Ŭ	0.00074	0.0041	mg/Kg-dry	1	15-Feb-2019 15:52
Surr: 2-Fluorobiphenyl	<b>52</b> . <b>1</b>		43-125	%REC	1	15-Feb-2019 15:52
Surr: 4-Terphenyl-d14	64.6	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	32-125	%REC	1	15-Feb-2019 15:52
Surr: Nitrobenzene-d5	54.0		37-125	%REC	1	15-Feb-2019 15:52
PCBS BY SW8082A		Method:SW8082	***	Prep:SW3541/36	665A / 14-Feb	-2019 Analyst: JBA
Aroclor 1016	U	0.0052	0.021	mg/Kg-dry	1	15-Feb-2019 00:35
Aroclor 1221	U	0.0069	0.021	mg/Kg-dry	1	15-Feb-2019 00:35
Aroclor 1232	U	0.0056	0.021	mg/Kg-dry	1	15-Feb-2019 00:35
Aroclor 1242	U	0.0073	0.021	mg/Kg-dry	1	15-Feb-2019 00:35
Aroclor 1248	U	0.0073	0.021	mg/Kg-dry	1	15-Feb-2019 00:35
Aroclor 1254	U	0.0058	0.021	mg/Kg-dry	1	15-Feb-2019 00:35
Aroclor 1260	0.077	0.0050	0.021	mg/Kg-dry	1	15-Feb-2019 00:35
Surr: Decachlorobiphenyl	86.8		54-143	%REC	1	15-Feb-2019 00:35
Surr: Tetrachloro-m-xylene	68.6		50-140	%REC	1	15-Feb-2019 00:35
METALS BY SW6020A		Method:SW6020		Prep:SW3050A	14-Feb-2019	Analyst: JHD
Arsenic	5.01	0.0824	0.588	mg/Kg-dry	1	15-Feb-2019 00:12
Cadmium	0.352	Jag 0.0318	0.588	mg/Kg-dry	1	15-Feb-2019 00:12
Cobalt	5.24	0.0177	0.588	mg/Kg-dry	1	15-Feb-2019 00:12
Iron	10,100	2.15	58.8	mg/Kg-dry		15-Feb-2019 00:12
Lead	5.46	0.0153	0.588	mg/Kg-dry	1	15-Feb-2019 00:12
Manganese	1,160	5.06	58.8	mg/Kg-dry		15-Feb-2019 14:19
MOISTURE - ASTM D2216	Mi	ethod:ASTM D2216		<del>-</del>	5	Analyst: DFF
Percent Moisture	19.4	0.0100	0.0100	wt%	1	14-Feb-2019 11:52

Note: See Qualifiers Page for a list of qualifiers and their explanation.





Weston Solutions, Inc.

Project:

FJ Doyle RA/TX

Sample ID:

Collection Date:

DRA08N-20190213-18-56

13-Feb-2019 14:44

**ANALYTICAL REPORT** 

WorkOrder:HS19020713 Lab ID:HS19020713-03

Matrix:Soil

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL PAHS		Method:	SW8270	de la company	Prep.SW3541 / 1	4-Feb-2019	Analyst: GEY
Acenaphthene	U		0.00066	0.0043	mg/Kg-dry	1	15-Feb-2019 16:12
Acenaphthylene	U		0.0013	0.0043	mg/Kg-dry	1	15-Feb-2019 16:12
Anthracene	U		0.00066	0.0043	mg/Kg-dry	1	15-Feb-2019 16:12
Benz(a)anthracene	U		0.0021	0.0043	mg/Kg-dry	1	15-Feb-2019 16:12
Benzo(a)pyrene	U		0.0013	0.0043	mg/Kg-dry	1	15-Feb-2019 16:12
Benzo(b)fluoranthene	U	***************************************	0.0016	0.0043	mg/Kg-dry	1	15-Feb-2019 16:12
Benzo(g,h,i)perylene	0.0025	DE to	0.00092	0.0043	mg/Kg-dry	1	15-Feb-2019 16:12
Benzo(k)fluoranthene	U		0.0012	0.0043	mg/Kg-dry	1	15-Feb-2019 16:12
Chrysene	0.0013	2 20	0.0010	0.0043	mg/Kg-dry	1	15-Feb-2019 16:12
Dibenz(a,h)anthracene	Ú	······································	0.0021	0.0043	mg/Kg-dry	1	15-Feb-2019 16:12
Fluoranthene	U		0.0014	0.0043	mg/Kg-dry	1	15-Feb-2019 16:12
Fluorene	U		0.0014	0.0043	mg/Kg-dry	1	15-Feb-2019 16:12
Indeno(1,2,3-cd)pyrene	U		0.0010	0.0043	mg/Kg-dry	1	15-Feb-2019 16:12
Naphthalene	U		0.00079	0.0043	mg/Kg-dry	1	15-Feb-2019 16:12
Phenanthrene	U		0.0020	0.0043	mg/Kg-dry	1	15-Feb-2019 16:12
Pyrene	0.0014	<i>ক</i> ত্র <b>ত</b>	0.00079	0.0043	mg/Kg-dry	1	15-Feb-2019 16:12
Surr: 2-Fluorobiphenyl	62.3			43-125	%REC	1	15-Feb-2019 16:12
Surr: 4-Terphenyl-d14	63.7	***************************************	***************************************	32-125	%REC	1	15-Feb-2019 16:12
Surr: Nitrobenzene-d5	51.4			37-125	%REC	1	15-Feb-2019 16:12
PCBS BY SW8082A		Method:	SW8082		Prep:SW3541/36	65A / 14-Feb-	2019 Analyst: JBA
Aroclor 1016	U		0.0055	0.022	mg/Kg-dry	1	14-Feb-2019 21:38
Aroclor 1221	U		0.0074	0.022	mg/Kg-dry	1	14-Feb-2019 21:38
Aroclor 1232	U		0.0059	0.022	mg/Kg-dry	1	14-Feb-2019 21:38
Aroclor 1242	U		0.0078	0.022	mg/Kg-dry	1	14-Feb-2019 21:38
Aroclor 1248	U		0.0078	0.022	mg/Kg-dry	1	14-Feb-2019 21:38
Aroclor 1254	U	***************************************	0.0062	0.022	mg/Kg-dry	1	14-Feb-2019 21:38
Aroclor 1260	0.017	4 25	0.0053	0.022	mg/Kg-dry	1	14-Feb-2019 21:38
Surr: Decachlorobiphenyl	93.6	·····		54-143	%REC	1	14-Feb-2019 21:38
Surr: Tetrachloro-m-xylene	97.8			50-140	%REC	1	14-Feb-2019 21:38
METALS BY SW6020A	7	Method:	SW6020		Prep:SW3050A /	14-Feb-2019	Analyst: JHD
Arsenic	5.64		0.0855	0.610	mg/Kg-dry	1	14-Feb-2019 23:54
Cadmium	0.368	4.10	0.0330	0.610	mg/Kg-dry	1	14-Feb-2019 23:54
Cobalt	10.1		0.0183	0.610	mg/Kg-dry	1	14-Feb-2019 23:54
lron .	28,800		112	3050	mg/Kg-dry	COLUMN TO CONTROL CONT	15-Feb-2019 13:31
Lead	20.0		0.0159	0.610	mg/Kg-dry	1	14-Feb-2019 23:54
Manganese	1,070		2.62	30.5	mg/Kg-dry		15-Feb-2019 13:31
MOISTURE - ASTM D2216	N	lethod:AS	TM D2216				Analyst: DFF
Percent Moisture	24.2		0.0100	0.0100	wt%	1	14-Feb-2019 11:52

Note: See Qualifiers Page for a list of qualifiers and their explanation.

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Weston Solutions, Inc.

Project:

FJ Doyle RA/TX

Sample ID:

FJD04-02-20190213-48-56

Collection Date:

13-Feb-2019 15:06

**ANALYTICAL REPORT** 

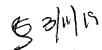
WorkOrder:HS19020713 Lab ID:HS19020713-04

Matrix:Soil

Aroclor 1016 U  Aroclor 1221 U  Aroclor 1232 U  Aroclor 1242 U  Aroclor 1248 U  Aroclor 1254 U  Aroclor 1260 U  Surr: Decachlorobiphenyl 84.8  Surr: Tetrachloro-m-xylene 95.0  PCBS BY SW8082A  Aroclor 1016 U  Aroclor 1221 U  Aroclor 1232 U	QUAL MDI	REPORT LIMIT		UTION DATE CTOR ANALYZED
Acenaphthylene Anthracene U Benzo(a)anthracene Benzo(b)fluoranthene Benzo(g,h,i)perylene Benzo(g,h,i)perylene Benzo(k)fluoranthene U Chrysene U Dibenz(a,h)anthracene U Fluoranthene U Indeno(1,2,3-cd)pyrene U Indeno(1,2,3-cd)pyrene U Pyrene U Surr: 2-Fluorobiphenyl Surr: Nitrobenzene-d5 SPLP PCBS BY SW8082A Aroclor 1232 Aroclor 1248 Aroclor 1254 Aroclor 1254 Aroclor 1260 Surr: Tetrachloro-m-xylene PCBS BY SW8082A Aroclor 1016 Aroclor 1016 Aroclor 1221 Aroclor 1254 Aroclor 1260 Surr: Tetrachloro-m-xylene PCBS BY SW8082A Aroclor 1016 Aroclor 1221 Aroclor 1221 Aroclor 1254 Aroclor 1260 Surr: Tetrachloro-m-xylene PCBS BY SW8082A Aroclor 1016 Aroclor 1221 Aroclor 1221 U Aroclor 1248 Aroclor 1254 Aroclor 1254 Aroclor 1260 Surr: Tetrachloro-m-xylene PCBS BY SW8082A Aroclor 1016 Aroclor 1221 Aroclor 1221 U Aroclor 1221 Aroclor 1232 U Aroclor 1242 U Aroclor 1242 U Aroclor 1254 Aroclor 1254 Aroclor 1254 Aroclor 1260 U Aroclor 1254 Aroclor 1260 U Aroclor 1221 U Aroclor 1221 U Aroclor 1221 U Aroclor 1232 U Aroclor 1242 U	Method:SW8270	The second of the second of the second	Prep SW3541 / 14-Fe	o-2019 Analyst: GEY
Anthracene U Benz(a)anthracene U Benzo(a)pyrene 0.0016 Benzo(b)fluoranthene 0.0023 Benzo(g,h,i)perylene 0.0016 Benzo(k)fluoranthene U Chrysene U Dibenz(a,h)anthracene U Fluoranthene U Indeno(1,2,3-cd)pyrene 0.0017 Naphthalene U Phenanthrene U Pyrene U Surr: 2-Fluorobiphenyl 46.5 Surr: 4-Terphenyl-d14 60.3 Surr: Nitrobenzene-d5 41.6 SPLP PCBS BY SW8082A M Aroclor 1016 U Aroclor 1232 U Aroclor 1254 U Aroclor 1254 U Aroclor 1260 U Surr: Tetrachloro-m-xylene 95.0 PCBS BY SW8082A Aroclor 1016 U Aroclor 1016 U Aroclor 1221 U Aroclor 1254 U Aroclor 1254 U Aroclor 1254 U Aroclor 1254 U Aroclor 1255 U Aroclor 1260 U Surr: Decachlorobiphenyl 84.8 Surr: Tetrachloro-m-xylene 95.0 PCBS BY SW8082A Aroclor 1016 U Aroclor 1221 U Aroclor 1232 U Aroclor 1232 U Aroclor 1242 U Aroclor 1254 U Aroclor 1254 U Aroclor 1255 U Aroclor 1255 U Aroclor 1260 U Surr: Decachlorobiphenyl S4.8 Surr: Tetrachloro-m-xylene 95.0 PCBS BY SW8082A	0.00058	0.0038	mg/Kg-dry 1	15-Feb-2019 16:31
Benz(a)anthracene         U           Benzo(a)pyrene         0.0016           Benzo(b)fluoranthene         0.0023           Benzo(g,h,i)perylene         0.0016           Benzo(k)fluoranthene         U           Chrysene         U           Dibenz(a,h)anthracene         U           Fluoranthene         U           Indeno(1,2,3-cd)pyrene         0.0017           Naphthalene         U           Phenanthrene         U           Pyrene         U           Surr: 2-Fluorobiphenyl         46.5           Surr: Nitrobenzene-d5         41.6           SPLP PCBS BY SW8082A         M           Aroclor 1016         U           Aroclor 1221         U           Aroclor 1242         U           Aroclor 1248         U           Aroclor 1254         U           Aroclor 1260         U           Surr: Decachlorobiphenyl         84.8           Surr: Tetrachloro-m-xylene         95.0           PCBS BY SW8082A         U           Aroclor 1232         U           Aroclor 1221         U           Aroclor 1222         U           Aroclor 1232         U	0.0012	0.0038	mg/Kg-dry 1	15-Feb-2019 16:31
Benzo(a)pyrene         0.0016           Benzo(b)fluoranthene         0.0023           Benzo(g,h,i)perylene         0.0016           Benzo(k)fluoranthene         U           Chrysene         U           Dibenz(a,h)anthracene         U           Fluoranthene         U           Fluorene         U           Indeno(1,2,3-cd)pyrene         0.0017           Naphthalene         U           Phenanthrene         U           Surr: 2-Fluorobiphenyl         46.5           Surr: 4-Terphenyl-d14         60.3           Surr: Nitrobenzene-d5         41.6           SPLP PCBS BY SW8082A         M           Aroclor 1016         U           Aroclor 1232         U           Aroclor 1242         U           Aroclor 1254         U           Aroclor 1260         U           Surr: Decachlorobiphenyl         84.8           Surr: Tetrachloro-m-xylene         95.0           PCBS BY SW8082A         U           Aroclor 1221         U           Aroclor 1232         U           Aroclor 1242         U	0.00058	0.0038	mg/Kg-dry 1	15-Feb-2019 16:31
Benzo(b)fluoranthene         0.0023           Benzo(g,h,i)perylene         0.0016           Benzo(k)fluoranthene         U           Chrysene         U           Dibenz(a,h)anthracene         U           Fluoranthene         U           Fluorene         U           Indeno(1,2,3-cd)pyrene         0.0017           Naphthalene         U           Phenanthrene         U           Pyrene         U           Surr: 2-Fluorobiphenyl         46.5           Surr: 4-Terphenyl-d14         60.3           Surr: Nitrobenzene-d5         41.6           SPLP PCBS BY SW8082A         M           Aroclor 1016         U           Aroclor 1221         U           Aroclor 1242         U           Aroclor 1254         U           Aroclor 1260         U           Surr: Decachlorobiphenyl         84.8           Surr: Tetrachloro-m-xylene         95.0           PCBS BY SW8082A         U           Aroclor 1221         U           Aroclor 1222         U           Aroclor 1221         U           Aroclor 1222         U           Aroclor 1232         U	0.0019	0.0038	mg/Kg-dry 1	15-Feb-2019 16:31
Benzo(g,h,i)perylene         0.0016           Benzo(k)fluoranthene         U           Chrysene         U           Dibenz(a,h)anthracene         U           Fluoranthene         U           Fluorene         U           Indeno(1,2,3-cd)pyrene         0.0017           Naphthalene         U           Phenanthrene         U           Pyrene         U           Surr: 2-Fluorobiphenyl         46.5           Surr: Nitrobenzene-d5         41.6           SPLP PCBS BY SW8082A         M           Aroclor 1016         U           Aroclor 1221         U           Aroclor 1232         U           Aroclor 1242         U           Aroclor 1248         U           Aroclor 1254         U           Aroclor 1260         U           Surr: Decachlorobiphenyl         84.8           Surr: Tetrachloro-m-xylene         95.0           PCBS BY SW8082A         U           Aroclor 1221         U           Aroclor 1232         U           Aroclor 1242         U	JS 0.0012	0.0038	mg/Kg-dry 1	15-Feb-2019 16:31
Benzo(k)fluoranthene Chrysene U Dibenz(a,h)anthracene Fluoranthene U Fluorene U Indeno(1,2,3-cd)pyrene U Naphthalene U Phenanthrene U Surr: 2-Fluorobiphenyl Surr: 4-Terphenyl-d14 60.3 Surr: Nitrobenzene-d5 41.6  SPLP PCBS BY SW8082A Aroclor 1016 U Aroclor 1221 Aroclor 1242 U Aroclor 1254 Aroclor 1260 Surr: Decachlorobiphenyl Surr: Tetrachloro-m-xylene PCBS BY SW8082A Aroclor 1016 U Aroclor 1016 U Surr: Decachlorobiphenyl Surr: Tetrachloro-m-xylene PCBS BY SW8082A Aroclor 1212 U Aroclor 1221 U Aroclor 1221 U Aroclor 1254 U Aroclor 1242	135 0.001	0.0038	mg/Kg-dry 1	15-Feb-2019 16:31
Chrysene         U           Dibenz(a,h)anthracene         U           Fluoranthene         U           Indeno(1,2,3-cd)pyrene         0.0017           Naphthalene         U           Phenanthrene         U           Pyrene         U           Surr: 2-Fluorobiphenyl         46.5           Surr: 4-Terphenyl-d14         60.3           Surr: Nitrobenzene-d5         41.6           SPLP PCBS BY SW8082A         M           Aroclor 1016         U           Aroclor 1221         U           Aroclor 1242         U           Aroclor 1248         U           Aroclor 1254         U           Aroclor 1260         U           Surr: Decachlorobiphenyl         84.8           Surr: Tetrachloro-m-xylene         95.0           PCBS BY SW8082A         U           Aroclor 1221         U           Aroclor 1221         U           Aroclor 1221         U           Aroclor 1222         U           Aroclor 1242         U	/300 0.0008°	0.0038	mg/Kg-dry 1	15-Feb-2019 16:31
Dibenz(a,h)anthracene         U           Fluoranthene         U           Fluorene         U           Indeno(1,2,3-cd)pyrene         0.0017           Naphthalene         U           Phenanthrene         U           Pyrene         U           Surr: 2-Fluorobiphenyl         46.5           Surr: Nitrobenzene-d5         41.6           SPLP PCBS BY SW8082A         M           Aroclor 1016         U           Aroclor 1221         U           Aroclor 1232         U           Aroclor 1242         U           Aroclor 1248         U           Aroclor 1254         U           Aroclor 1260         U           Surr: Decachlorobiphenyl         84.8           Surr: Tetrachloro-m-xylene         95.0           PCBS BY SW8082A         U           Aroclor 1221         U           Aroclor 1221         U           Aroclor 1222         U           Aroclor 1223         U           Aroclor 1242         U	0.0010	0.0038	mg/Kg-dry 1	15-Feb-2019 16:31
Fluoranthene         U           Fluorene         U           Indeno(1,2,3-cd)pyrene         0.0017           Naphthalene         U           Phenanthrene         U           Pyrene         U           Surr: 2-Fluorobiphenyl         46.5           Surr: Nitrobenzene-d5         41.6           SPLP PCBS BY SW8082A         M           Aroclor 1016         U           Aroclor 1221         U           Aroclor 1232         U           Aroclor 1242         U           Aroclor 1248         U           Aroclor 1254         U           Aroclor 1260         U           Surr: Decachlorobiphenyl         84.8           Surr: Tetrachloro-m-xylene         95.0           PCBS BY SW8082A         U           Aroclor 1216         U           Aroclor 1221         U           Aroclor 1232         U           Aroclor 1242         U	0.00093	0.0038	mg/Kg-dry 1	15-Feb-2019 16:31
Fluorene         U           Indeno(1,2,3-cd)pyrene         0.0017           Naphthalene         U           Phenanthrene         U           Pyrene         U           Surr: 2-Fluorobiphenyl         46.5           Surr: 4-Terphenyl-d14         60.3           Surr: Nitrobenzene-d5         41.6           SPLP PCBS BY SW8082A         M           Aroclor 1016         U           Aroclor 1221         U           Aroclor 1232         U           Aroclor 1242         U           Aroclor 1254         U           Aroclor 1260         U           Surr: Decachlorobiphenyl         84.8           Surr: Tetrachloro-m-xylene         95.0           PCBS BY SW8082A         U           Aroclor 1221         U           Aroclor 1221         U           Aroclor 1222         U           Aroclor 1232         U           Aroclor 1242         U	0.0019	0.0038	mg/Kg-dry 1	15-Feb-2019 16:31
Indeno(1,2,3-cd)pyrene         0.0017           Naphthalene         U           Phenanthrene         U           Pyrene         U           Surr: 2-Fluorobiphenyl         46.5           Surr: Nitrobenzene-d5         41.6           SPLP PCBS BY SW8082A         M           Aroclor 1016         U           Aroclor 1221         U           Aroclor 1232         U           Aroclor 1242         U           Aroclor 1248         U           Aroclor 1254         U           Aroclor 1260         U           Surr: Decachlorobiphenyl         84.8           Surr: Tetrachloro-m-xylene         95.0           PCBS BY SW8082A         U           Aroclor 1016         U           Aroclor 1221         U           Aroclor 1222         U           Aroclor 1232         U           Aroclor 1242         U	0.0013	0.0038	mg/Kg-dry 1	15-Feb-2019 16:31
Naphthalene         U           Phenanthrene         U           Pyrene         U           Surr: 2-Fluorobiphenyl         46.5           Surr: 4-Terphenyl-d14         60.3           Surr: Nitrobenzene-d5         41.6           SPLP PCBS BY SW8082A         M           Aroclor 1016         U           Aroclor 1221         U           Aroclor 1232         U           Aroclor 1242         U           Aroclor 1248         U           Aroclor 1254         U           Aroclor 1260         U           Surr: Decachlorobiphenyl         84.8           Surr: Tetrachloro-m-xylene         95.0           PCBS BY SW8082A         U           Aroclor 1016         U           Aroclor 1221         U           Aroclor 1232         U           Aroclor 1242         U	0.0013	0.0038	mg/Kg-dry 1	15-Feb-2019 16:31
Phenanthrene         U           Pyrene         U           Surr: 2-Fluorobiphenyl         46.5           Surr: 4-Terphenyl-d14         60.3           Surr: Nitrobenzene-d5         41.6           SPLP PCBS BY SW8082A         M           Aroclor 1016         U           Aroclor 1221         U           Aroclor 1232         U           Aroclor 1242         U           Aroclor 1254         U           Aroclor 1260         U           Surr: Decachlorobiphenyl         84.8           Surr: Tetrachloro-m-xylene         95.0           PCBS BY SW8082A         U           Aroclor 1016         U           Aroclor 1221         U           Aroclor 1232         U           Aroclor 1242         U	0.0009 م	0.0038	mg/Kg-dry 1	15-Feb-2019 16:31
Pyrene         U           Surr: 2-Fluorobiphenyl         46.5           Surr: 4-Terphenyl-d14         60.3           Surr: Nitrobenzene-d5         41.6           SPLP PCBS BY SW8082A         M           Aroclor 1016         U           Aroclor 1221         U           Aroclor 1232         U           Aroclor 1242         U           Aroclor 1254         U           Aroclor 1260         U           Surr: Decachlorobiphenyl         84.8           Surr: Tetrachloro-m-xylene         95.0           PCBS BY SW8082A         U           Aroclor 1016         U           Aroclor 1221         U           Aroclor 1232         U           Aroclor 1242         U	0.00070	0.0038	mg/Kg-dry 1	15-Feb-2019 16:31
Surr: 2-Fluorobiphenyl       46.5         Surr: 4-Terphenyl-d14       60.3         Surr: Nitrobenzene-d5       41.6         SPLP PCBS BY SW8082A       M         Aroclor 1016       U         Aroclor 1221       U         Aroclor 1232       U         Aroclor 1242       U         Aroclor 1254       U         Aroclor 1260       U         Surr: Decachlorobiphenyl       84.8         Surr: Tetrachloro-m-xylene       95.0         PCBS BY SW8082A       U         Aroclor 1016       U         Aroclor 1221       U         Aroclor 1232       U         Aroclor 1242       U	0.0017	0.0038	mg/Kg-dry 1	15-Feb-2019 16:31
Surr: 2-Fluorobiphenyl       46.5         Surr: 4-Terphenyl-d14       60.3         Surr: Nitrobenzene-d5       41.6         SPLP PCBS BY SW8082A       M         Aroclor 1016       U         Aroclor 1221       U         Aroclor 1232       U         Aroclor 1242       U         Aroclor 1254       U         Aroclor 1260       U         Surr: Decachlorobiphenyl       84.8         Surr: Tetrachloro-m-xylene       95.0         PCBS BY SW8082A       U         Aroclor 1016       U         Aroclor 1221       U         Aroclor 1232       U         Aroclor 1242       U	0.00070		mg/Kg-dry 1	15-Feb-2019 16:31
Surr: 4-Terphenyl-d14       60.3         Surr: Nitrobenzene-d5       41.6         SPLP PCBS BY SW8082A       M         Aroclor 1016       U         Aroclor 1221       U         Aroclor 1232       U         Aroclor 1242       U         Aroclor 1254       U         Aroclor 1260       U         Surr: Decachlorobiphenyl       84.8         Surr: Tetrachloro-m-xylene       95.0         PCBS BY SW8082A       U         Aroclor 1221       U         Aroclor 1232       U         Aroclor 1242       U		43-125	%REC 1	15-Feb-2019 16:31
Surr: Nitrobenzene-d5         41.6           SPLP PCBS BY SW8082A         M           Aroclor 1016         U           Aroclor 1221         U           Aroclor 1232         U           Aroclor 1242         U           Aroclor 1254         U           Aroclor 1260         U           Surr: Decachlorobiphenyl         84.8           Surr: Tetrachloro-m-xylene         95.0           PCBS BY SW8082A         U           Aroclor 1016         U           Aroclor 1221         U           Aroclor 1232         U           Aroclor 1242         U	18 er - 18 18 000 18 18 18 18 18 18 18 18 18 18 18 18 18	32-125	%REC 1	15-Feb-2019 16:31
Aroclor 1016 U  Aroclor 1221 U  Aroclor 1232 U  Aroclor 1242 U  Aroclor 1248 U  Aroclor 1254 U  Aroclor 1260 U  Surr: Decachlorobiphenyl 84.8  Surr: Tetrachloro-m-xylene 95.0  PCBS BY SW8082A  Aroclor 1221 U  Aroclor 1232 U  Aroclor 1242 U  Aroclor 1242 U		37-125	%REC 1	15-Feb-2019 16:31
Aroclor 1016 U  Aroclor 1221 U  Aroclor 1232 U  Aroclor 1242 U  Aroclor 1248 U  Aroclor 1254 U  Aroclor 1260 U  Surr: Decachlorobiphenyl 84.8  Surr: Tetrachloro-m-xylene 95.0  PCBS BY SW8082A  Aroclor 1221 U  Aroclor 1232 U  Aroclor 1242 U  Aroclor 1242 U	ethod:SW1312/80	32 Leache SW1312 / 15-Feb-	2019 Prep:SW3510C/3665/	N/18-Feb- Analyst: NPI
Aroclor 1221 U  Aroclor 1232 U  Aroclor 1242 U  Aroclor 1248 U  Aroclor 1254 U  Aroclor 1260 U  Surr: Decachlorobiphenyl 84.8  Surr: Tetrachloro-m-xylene 95.0  PCBS BY SW8082A  Aroclor 121 U  Aroclor 1221 U  Aroclor 1232 U  Aroclor 1242 U	0.10	324 Sept. 1991 Sept. 1994	2019 ug/L 1	18-Feb-2019 23:00
Aroclor 1232 U  Aroclor 1242 U  Aroclor 1248 U  Aroclor 1254 U  Aroclor 1260 U  Surr: Decachlorobiphenyl 84.8  Surr: Tetrachloro-m-xylene 95.0  PCBS BY SW8082A  Aroclor 1016 U  Aroclor 1221 U  Aroclor 1232 U  Aroclor 1242	0.10	w	ug/L 1	18-Feb-2019 23:00
Aroclor 1242 U  Aroclor 1248 U  Aroclor 1254 U  Aroclor 1260 U  Surr: Decachlorobiphenyl 84.8  Surr: Tetrachloro-m-xylene 95.0  PCBS BY SW8082A  Aroclor 1016 U  Aroclor 1221 U  Aroclor 1232 U  Aroclor 1242 U	0.10		ug/L 1	18-Feb-2019 23:00
Aroclor 1248 U  Aroclor 1254 U  Aroclor 1260 U  Surr: Decachlorobiphenyl 84.8  Surr: Tetrachloro-m-xylene 95.0  PCBS BY SW8082A  Aroclor 1016 U  Aroclor 1221 U  Aroclor 1232 U  Aroclor 1242 U	0.10		ug/L 1	18-Feb-2019 23:00
Aroclor 1254 U Aroclor 1260 U  Surr: Decachlorobiphenyl 84.8 Surr: Tetrachloro-m-xylene 95.0  PCBS BY SW8082A  Aroclor 1016 U Aroclor 1221 U Aroclor 1232 U Aroclor 1242 U	0.10		ug/L 1	18-Feb-2019 23:00
Aroclor 1260 U  Surr: Decachlorobiphenyl 84.8  Surr: Tetrachloro-m-xylene 95.0  PCBS BY SW8082A  Aroclor 1016 U  Aroclor 1221 U  Aroclor 1232 U  Aroclor 1242 U	0.10	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	ug/L 1	18-Feb-2019 23:00
Surr: Decachlorobiphenyl         84.8           Surr: Tetrachloro-m-xylene         95.0           PCBS BY SW8082A         U           Aroclor 1016         U           Aroclor 1221         U           Aroclor 1232         U           Aroclor 1242         U	0.10		ug/L 1	18-Feb-2019 23:00
Surr: Tetrachloro-m-xylene         95.0           PCBS BY SW8082A         U           Aroclor 1016         U           Aroclor 1221         U           Aroclor 1232         U           Aroclor 1242         U		30-150	%REC 1	18-Feb-2019 23:00
PCBS BY SW8082A           Aroclor 1016         U           Aroclor 1221         U           Aroclor 1232         U           Aroclor 1242         U		30-150	%REC 1	18-Feb-2019 23:00
Aroclor 1016         U           Aroclor 1221         U           Aroclor 1232         U           Aroclor 1242         U	Method:SW8082			14-Feb-2019 Analyst: JBA
Aroclor 1221         U           Aroclor 1232         U           Aroclor 1242         U	0.0049	0.019	mg/Kg-dry 1	15-Feb-2019 01:06
Aroclor 1232         U           Aroclor 1242         U	0.0068		mg/Kg-dry 1	15-Feb-2019 01:06
Aroclor 1242 U	0.0052		mg/Kg-dry 1	15-Feb-2019 01:06
	0.0052	1404-1-1-11111-11111-1111-1111-1111-111	mg/Kg-dry 1	15-Feb-2019 01:06
	0.0068		mg/Kg-dry 1	15-Feb-2019 01:06
Aroclor 1254 U	0.0055		mg/Kg-dry 1	15-Feb-2019 01:06
Aroclor 1260 0.21	0.0046		mg/Kg-dry 1	15-Feb-2019 01:06
Surr: Decachlorobiphenyl 88.6	0,0040	54-143	%REC 1	15-Feb-2019 01:06
Surr: Tetrachloro-m-xylene 66.5		50-140	%REC 1 %REC 1	15-Feb-2019 01:06

Note: See Qualifiers Page for a list of qualifiers and their explanation.





Weston Solutions, Inc.

Project:

FJ Doyle RA/TX

Sample ID:

FJD04-02-20190213-48-56

Collection Date:

13-Feb-2019 15:06

**ANALYTICAL REPORT** 

WorkOrder:HS19020713 Lab ID:HS19020713-04

Matrix:Soil

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED	)
SPLP METALS BY SW6020A		Method:	SW6020	Leache: SW1312 / 15-Feb-2019	Prep:SW3010A /	15-Feb-2019	Analyst:	JCJ
Manganese	0.0389		0.000700	0.00500	mg/L	1	15-Feb-2019 1	16:16
Silver	Ú		0.000200	0.00500	mg/L	1	15-Feb-2019 1	16:16
METALS BY SW6020A		Method:	SW6020		Prep.SW3050A /	14-Feb-2019	Analyst:	JHD
Arsenic	4.08		0.0770	0.550	mg/Kg-dry	1	15-Feb-2019 0	00:14
Cadmium	0.322	+36	0.0297	0,550	mg/Kg-dry	1	15-Feb-2019 0	00:14
Cobalt	6.12		0.0165	0.550	mg/Kg-dry	1	15-Feb-2019 0	00:14
Iron	9,760	•	2.01	55.0	mg/Kg-dry	1	15-Feb-2019 0	00:14
Lead	6.80		0.0143	0.550	mg/Kg-dry	1	15-Feb-2019 (	00:14
Manganese	1,310		4.73	55.0	mg/Kg-dry	100	15-Feb-2019 1	14:22
MOISTURE - ASTM D2216	ı	lethod:AS	TM D2216				Analyst:	DFF
Percent Moisture	14.1		0.0100	0.0100	wt%	1	14-Feb-2019 1	11:52



8 3/1/S

### APPENDIX I COMFORT LETTERS

#### UNITED STATES ENVIRONMENTAL PROTECTION AGENCY



REGION 6 1201 ELM STREET, SUITE 500 DALLAS, TEXAS 75270-2102

19 June 2019

Terry McCalpin, City of Leonard, City Administrator P.O. Box 1270 Leonard, Texas 75452

RE: F.J. Doyle Salvage, Property Identification, City of Leonard Right-of-Way Properties (DRA\_, EAS\_) Soil Removal Action at 905 N. Poplar St.

#### Dear Terry McCalpin:

The purpose of this letter is to provide the City of Leonard with documentation confirming that the United States Environmental Protection Agency (EPA) recently completed the removal of soil contaminated by polychlorinated biphenyls (PCBs), semivolatile organic compounds (SVOCs), and metals on City of Leonard right-of-way properties and surrounding properties; and, remediation consisted of removal of soil from various locations on city property. The remediation activities were conducted based on previous sampling results reviewed by the EPA, the Texas Commission on Environmental Quality (TCEQ), and the Agency for Toxic Substances and Disease Registry (ATSDR). The removal assessment activities in the area were conducted between 26 April 2018 and 05 October 2018. The removal action activities in the area were conducted between 05 November 2018 and 19 February 2019. The maximum excavation depth (variable due to the depth of bedrock) on city properties surrounding 905 N. Poplar St. was up to 48 inches below the ground surface. City properties were then backfilled with clean soil and sodded, seeded, backfilled with limestone rock, or some combination of those.

In areas on city properties and surrounding properties where contaminated soil remains at final excavation depth an orange geotextile liner was placed as a contamination notification for possible future excavation activities. Additionally, the EPA allowed the installation of the orange geotextile liner in some areas prior to receiving analytical results when maximum excavation depth was achieved and failure to backfill would delay project completion (in these areas the City of Leonard can disregard the use of the orange geotextile liner warning). See the attached analytical summary tables and maps for sampling results for city properties, as well as locations of where the orange geotextile liner was applied to city properties.

Please save this document, if the City of Leonard sells, transfers, or refinances a property the city will have documentation of the PCB, SVOCs, and metal contamination and the EPA removal action conducted on city properties.

The EPA thanks the City of Leonard for patience and understanding as we know that cleanup activities of this nature are disruptive to the community. If there are any questions concerning the work conducted on city property, please contact me at 214-665-6609.

#### Sincerely,

Gary Moore

Federal On-Scene Coordinator

U.S. EPA Region 6 - Superfund Division

#### Attachments:

Assessment Map Assessment Table Excavation Map Removal Table

State of Texas

County of COUIN

Before me, ANYI GANDHI on this day personally appeared GARY MOORE known to me (or proved to me on the oath of AFFI EMATION) or through (description of identity card or other document) to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he executed the same for the purposes and consideration therein expressed.

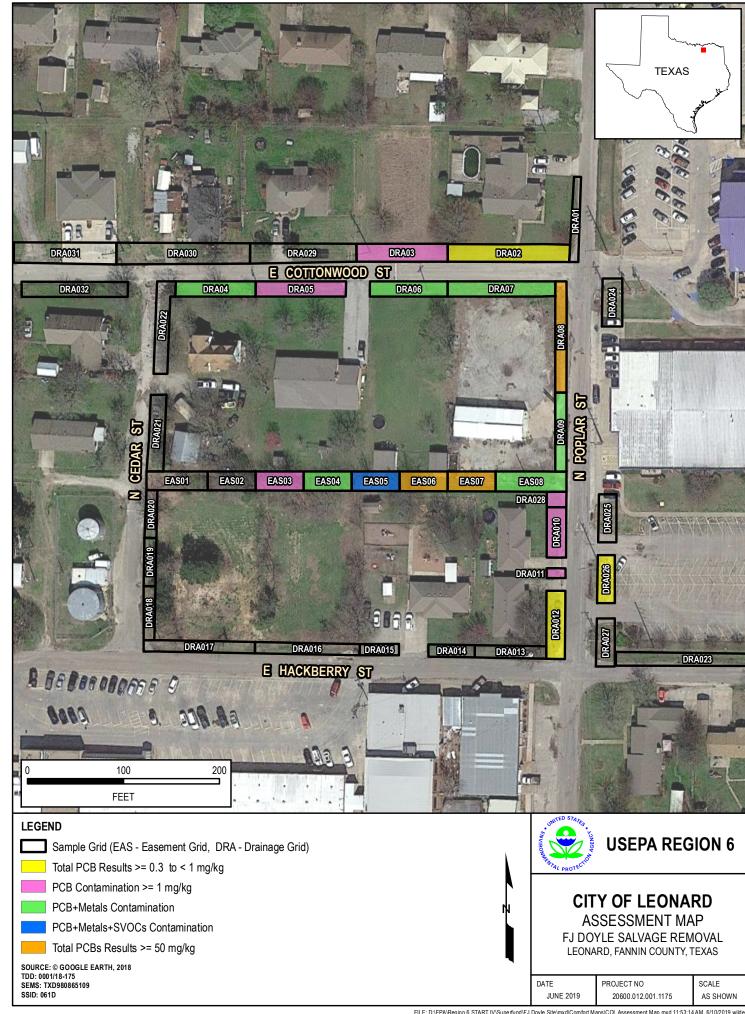
Given under my hand and seal of office this \_\_\_\_\_\_ day of \_\_\_\_\_\_, (year). ~~01.

Notary Public's Signature

AN PURE OF TEE

ANVI GANDHI
Notary Public
STATE OF TEXAS
My Comm. Exp. 04-18-23
Notary ID # 13198105-1

(Personalized Seal)



	Analyte CAS.NO						Metals	Arsenic 7440-38-2	Cobalt 7440-48-4			Manganese 7439-96-5	SVOCs	Benzo(a)anthracene		Benzo(b)fluoranthene	Dibenz(a,h)anthracene	Indeno(1,2,3-cd)pyrene
	Units					mg/kg		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
	Site Specific Cleanup Levels					1		20	23	3100	400	1800		11	1.1	11	1.1	11
Station	Sample ID	Depth	Date	Туре														
DRA01	DRA01-20180501-01-51	0"-1"	5/1/2018	FS		0.03 JQK		8.78	5.4	43	10.2	626		0.03 JQ	0.05 JQ	0.06 JQ	0.02 U	0.05 JQ
DRA01	DRA01-20180501-06-51	0"-6"	5/1/2018	FS		0.03 U		12.4	6.84	32.5	10.7	1050		0.02 JQ	0.01 U	0.01 U	0.02 U	0.01 U
DRA01	DRA01-20180501-12-51	6"-12"	5/1/2018	FS		0.00691 U		12.3	18.6	16.5	27.7	2300		0.00919 U	0.01 U	0.01 U	0.02 U	0.01 U
DRA02	DRA02-20180501-01-51	0"-1"	5/1/2018	FS		0.71 JK		18.1	9.54	113	29.9	1260		0.02 JQ	0.04 JQ	0.06 JQ	0.02 U	0.05 JQ
DRA02	DRA02-20180501-06-51	0"-6"	5/1/2018	FS		0.75		21.4	12.7	75.3	34.9	1740		0.02 JQ	0.01 U	0.01 U	0.02 U	0.01 U
DRA02	DRA02-20180501-12-51	6"-12"	5/1/2018	FS		0.83 JK		19.9	11.3	59.8	30.2	1540		0.03 JQ	0.01 U	0.01 U	0.02 U	0.01 U
DRA03	DRA03-20180501-01-51	0"-1"	5/1/2018	FS		1.41 JK		11.2	6.53	94.9	19.4	949		0.03 JQ	0.04 JQ	0.07 JQ	0.02 U	0.05 JQ
DRA03	DRA03-20180501-06-51	0"-6"	5/1/2018	FS		1.84		12.4	10.6	60.3	23.2	1370		0.02 JQ	0.01 U	0.03 JQ	0.02 U	0.01 U
DRA03	DRA03-20180501-12-51	6"-12"	5/1/2018	FS		1.01 JK		15.4	10.5	17.1	33.9	1390		0.00864 U	0.01 U	0.01 U	0.02 U	0.01 U
DRA04	DRA04-20180501-01-51	0"-1"	5/1/2018	FS		1.32		20.6	6.56	2000	153	789		0.06 JQ	0.05 JQ	0.12 JQ	0.02 U	0.1 JQ
DRA04	DRA04-20180501-06-51	0"-6"	5/1/2018	FS		0.86		10.9	5.04	3010	228	636		0.05 JQ	0.01 U	0.08 JQ	0.02 U	0.01 U
DRA04	DRA04-20180501-12-51	6"-12"	5/1/2018	FS		0.11 JL		5.03	6.34	45.4	35.5	1110		0.00884 U	0.01 U	0.01 U	0.02 U	0.01 U
DRA05	DRA05-20180501-01-51	0"-1"	5/1/2018	FS		1.26		17.6	5.4	2570	164	732		0.04 JQ	0.06 JQ	0.1 JQ	0.02 U	0.08 JQ
DRA05	DRA05-20180501-06-51	0"-6"	5/1/2018	FS		2.95 JH		12.4	5.35	1700	135	672		0.02 JQ	0.01 U	0.01 U	0.02 U	0.01 U
DRA05	DRA05-20180501-12-51	6"-12"	5/1/2018	FS		0.09 JK		10.9	3.06	128	16.6	958		0.00912 U	0.01 U	0.01 U	0.02 U	0.01 U
DRA06	DRA06-20180502-01-51	0"-1"	5/2/2018	FS		4.58 JK		59.1	5.99	3840	197	701		0.05 JQ	0.09 JQ	0.2 JQ	0.02 U	0.07 JQ
DRA06	DRA06-20180502-06-51	0"-6"	5/2/2018	FS		31.7		23.7	9.72	518	61.8	1400		0.00885 U	0.01 U	0.01 U	0.02 U	0.01 U
DRA06	DRA06-20180502-12-51	6"-12"	5/2/2018	FS		9.65		21.9	8.41	173	36	946		0.00891 U	0.01 U	0.01 U	0.02 U	0.01 U
DRA07	DRA07-20180502-01-51	0"-1"	5/2/2018	FS		2.88 JL		40.1	4.88	2150	92.5	584		0.08 U	0.11 U	0.15 U	0.21 U	0.16 U
DRA07	DRA07-20180502-06-51	0"-6"	5/2/2018	FS		12.7		15.6	7.59	2860	142	879		0.03 JQ	0.04 JQ	0.01 U	0.02 U	0.05 JQ
DRA07	DRA07-20180502-24-51	12"-24"	5/2/2018	FS		0.04 JQK		2.88 JK	3.52 JK	41.6	5.05 JK	910 JK		0.00942 UJL	0.01 UJL	0.01 UJL	0.02 UJL	0.01 UJL
DRA07	DRA07-20180502-24-52	12"-24"	5/2/2018	FD		0.05 JK		6.05 JK	15.2 JK	42.1 JK	18.8 JK	2270 JK		0.009 U	0.01 U	0.01 U	0.02 U	0.01 U
DRA07	DRA07-20180502-12-51	6"-12"	5/2/2018	FS		0.07 JK		10.1	14.7	121	21	2520		0.00956 U	0.01 U	0.01 U	0.02 U	0.01 U
DRA08	DRA08-20180502-01-51	0"-1"	5/2/2018	FS		96.5		42.7	6.88	4230	129	918 JK		0.09 U	0.13 U	0.17 U	0.24 U	0.18 U
DRA08	DRA08-20180502-06-51	0"-6"	5/2/2018	FS		2.4 JL		21.1	5.36	3980	139	604		0.09 JQL	0.13 JQL	0.01 UJL	0.03 JQL	0.16 JQL
DRA08	DRA08-20180502-24-51	12"-24"	5/2/2018	FS		0.00739 U		8.25	16	84.7	23.3	2200 JK		0.00964 U	0.01 U	0.01 U	0.02 U	0.01 U
DRA08	DRA08-20180502-12-51	6"-12"	5/2/2018	FS		0.00762 U		4.88 JK	11.4	111	22.1	1330		0.00993 U	0.01 U	0.01 U	0.02 U	0.01 U
DRA08	DRA08-20180502-12-52	6"-12"	5/2/2018	FD		0.02 JQK		8.89 JK	10.4	123	21.9	1200		0.00878 U	0.01 U	0.01 U	0.02 U	0.01 U
DRA09	DRA09-20180502-01-51	0"-1"	5/2/2018	FS		2.05		8.45	3.58 JQ	5270	52.2	474 JK		0.07 U	0.1 U	0.13 U	0.18 U	0.14 U
DRA09	DRA09-20180502-06-51	0"-6"	5/2/2018	FS		3.06 JL		8.6	5.83	1560	163	588		0.05 JQ	0.07 JQ	0.09 JQ	0.02 U	0.05 JQ



	Analyte CAS.NO						Metals	Arsenic 7440-38-2	Cobalt 7440-48-4	Copper 7440-50-8	Ee ad d. 7439-92-1	Manganese 7439-96-5	SVOCs	မenzo(a)anthracene မှ မှ မှ မှ	Benzo(a)pyrene 3.50	Benzo(b)fluoranthene	Dibenz(a,h)anthracene	Indeno(1,2,3-cd)pyrene
	Units					mg/kg		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
S	ite Specific Cleanup Levels					1		20	23	3100	400	1800		11	1.1	11	1.1	11
Station	Sample ID	Depth	Date	Type														
DRA09	DRA09-20180502-24-51	12"-24"	5/2/2018	FS		0.09 JK		4.65	10.1	77	20.4	1070		0.00832 U	0.01 U	0.01 U	0.02 U	0.01 U
DRA09	DRA09-20180502-12-51	6"-12"	5/2/2018	FS		42.6		5.68	11.5	98.5	24.6	1660 JK		0.00831 U	0.01 U	0.01 U	0.02 U	0.01 U
DRA10	DRA10-20180501-01-51	0"-1"	5/1/2018	FS		4.96		9.58	16.2	189	43.7	1550		0.00854 U	0.26 JQ		0.02 U	0.24 JQ
DRA10	DRA10-20180501-06-51	0"-6"	5/1/2018	FS		6.72		11	17.5	186	53.7	1430		0.05 JQ	0.07 JQ		0.02 U	0.08 JQ
DRA10	DRA10-20180501-12-51		5/1/2018	FS		0.61 JH		5.79	12.9	79.2	35.1	1280		0.03 JQ	0.01 U	0.01 U	0.02 U	0.01 U
DRA11	DRA11-20180501-01-51	0"-1"	5/1/2018	FS		1.37 JK		11	11.7	146	36.1	1040		0.25 JQ	0.4 JQ	0.6	0.08 JQ	0.37 JQ
DRA11	DRA11-20180501-01-52	0"-1"	5/1/2018	FD		0.63 JK		11.5	12.8	134	36.4	1020		0.28 JQ	0.45	0.65	0.11 JQ	0.48
DRA11	DRA11-20180501-06-51	0"-6"	5/1/2018	FS		4.9 JH		19.3	16.2	122	42.9	1440		0.23 JQ	0.38 JQ	0.54	0.03 JQ	0.39 JQ
DRA11	DRA11-20180501-12-51	6"-12"	5/1/2018	FS		0.21		8.23	18.5	31.4	30.8	1760		0.03 JQ	0.01 U	0.06 JQ	0.02 U	0.01 U
DRA12	DRA12-20180501-01-51	0"-1"	5/1/2018	FS		0.75		6.78	9.92	80	37.4	1010		0.25 JQ	0.43	0.73	0.04 JQ	0.43
DRA12	DRA12-20180501-06-51	0"-6"	5/1/2018	FS		0.28 JH		7.52	11.4	62.4	36.3	1100		0.08 JQ	0.12 JQ	0.17 JQ	0.03 JQ	0.12 JQ
DRA12	DRA12-20180501-06-52	0"-6"	5/1/2018	FD		0.33 JH		6.97	10.2	77.7	38.7	965		0.27 JQ	0.26 JQ	0.3 JQ	0.04 JQ	0.2 JQ
DRA12	DRA12-20180501-12-51		5/1/2018	FS		0.32 JH		8.45	10.5	54	33.5	983		0.04 JQ	0.05 JQ	0.08 JQ	0.02 U	0.07 JQ
DRA13	DRA13-20180501-01-51	0"-1"	5/1/2018	FS		0.03 U		6.44	14.3	25.9	54	1390		0.05 JQ	0.01 U	0.01 U	0.02 U	0.01 U
DRA13	DRA13-20180501-06-51	0"-6"	5/1/2018	FS		0.03 U		5.13	11.6	25.9	66.3	1160		0.09 JQ	0.11 JQ	0.13 JQ	0.02 JQ	0.1 JQ
DRA13	DRA13-20180501-12-51	6"-12"	5/1/2018	FS		0.00679 U		5.37	16	24.9	70.6	1870		0.02 JQ	0.01 U	0.03 JQ	0.02 U	0.01 U
DRA14	DRA14-20180501-01-51	0"-1"	5/1/2018	FS		0.03 U		5.18	13.1	21	46.9	2110		0.04 JQ	0.01 U	0.01 U	0.02 U	0.01 U
DRA14	DRA14-20180501-06-51	0"-6"	5/1/2018	FS		0.0068 U		6.44	9.99	25	58.1	1190		0.04 JQ	0.06 JQ	0.09 JQ	0.02 U	0.05 JQ
DRA14	DRA14-20180501-12-51	6"-12"	5/1/2018	FS		0.00681 U		5.36	9.34	14	63	909		0.02 JQ	0.02 JQ	0.01 U	0.02 U	0.02 JQ
DRA15	DRA15-20180502-06-51	0"-6"	5/2/2018	FS		0.00654 U		6.84	16.5	17.1	63.1	1220		0.02 JQ	0.02 JQ	0.01 JQ	0.02 U	0.02 JQ
DRA15	DRA15-20180502-12-51	6"-12"	5/2/2018	FS		0.00703 U		5.34	14.2	12.7	36.3	1400		0.05 JQ	0.04 JQ	0.06 JQ	0.02 U	0.04 JQ
DRA16	DRA16-20180501-01-51	0"-1"	5/1/2018	FS		0.03 U		5.27	6.89	20.6	47.2	895		0.19 JQ	0.22 JQ	0.3 JQ	0.04 JQ	0.18 JQ
DRA16	DRA16-20180501-06-51	0"-6"	5/1/2018	FS		0.00684 U		7.93	9.68	17.7	65.7	1270		0.05 JQ	0.07 JQ	0.08 JQ	0.02 U	0.06 JQ
DRA16	DRA16-20180501-12-51	6"-12"	5/1/2018	FS		0.00675 U		6.12	12.6	22.2	37.8	1220		0.03 JQ	0.02 JQ	0.03 JQ	0.02 U	0.02 JQ
DRA17	DRA17-20180501-01-51	0"-1"	5/1/2018	FS		0.03 U		4.4	5.26	19.6	47.8	745		0.17 JQ	0.23 JQ	0.33 JQ	0.05 JQ	0.21 JQ
DRA17	DRA17-20180501-06-51	0"-6"	5/1/2018	FS		0.03 U		4.84	5.69	15.5	44.8	825		0.23 JQ	0.26 JQ	0.47	0.06 JQ	0.23 JQ
DRA17	DRA17-20180501-12-51	6"-12"	5/1/2018	FS		0.00667 U		6.89	8.07	9.47	22.3	1080		0.08 JQ	0.1 JQ	0.13 JQ	0.02 JQ	0.1 JQ
DRA17	DRA17-20180501-12-52	6"-12"	5/1/2018	FD		0.00672 U		3.9 JK	8.55	12.5	30.1	1180		0.02 JQ	0.02 JQ	0.01 U	0.02 U	0.02 JQ
DRA18	DRA18-20180501-01-51	0"-1"	5/1/2018	FS		0.03 U		4.52	4.82	19.8	66.1	757		0.25 JQ	0.3 JQ	0.42	0.07 JQ	0.3 JQ
DRA18	DRA18-20180501-06-51	0"-6"	5/1/2018	FS		0.03 U		4.16	4.38	15.9	53.9	881		0.21 JQ	0.26 JQ	0.36 JQ	0.06 JQ	0.25 JQ



	Analyte CAS.NO						Metals	Arsenic 7440-38-2	Cobalt 7440-48-4	Copper 7440-50-8	7439-92-1	Manganese 7439-96-5	SVOCs	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Dibenz(a,h)anthracene	Indeno(1,2,3-cd)pyrene
	Units					mg/kg		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
	Site Specific Cleanup Levels					1		20	23	3100	400	1800		11	1.1	11	1.1	11
Station	Sample ID	Depth	Date	Туре							-	-					-	
DRA19	DRA19-20180501-01-51	0"-1"	5/1/2018	FS		0.12 JQH		4.28	3.36	18.4	50.9	633		0.13 JQ	0.16 JQ	0.24 JQ	0.03 JQ	0.14 JQ
DRA19	DRA19-20180501-06-51	0"-6"	5/1/2018	FS		0.09 JQ		6.41	4.29	23.1	66.7	785		0.06 JQ	0.08 JQ	0.1 JQ	0.02 JQ	0.06 JQ
DRA19	DRA19-20180501-06-52	0"-6"	5/1/2018	FD		0.03 U		5.1	4.5	20.8	72.1	916		0.11 JQ	0.13 JQ	0.2 JQ	0.03 JQ	0.11 JQ
DRA19	DRA19-20180501-12-51	6"-12"	5/1/2018	FS		0.03 U		6.67	3.94	18.7	50.6	772		0.06 JQ	0.07 JQ	0.1 JQ	0.02 U	0.06 JQ
DRA20	DRA20-20180501-01-51	0"-1"	5/1/2018	FS		0.03 U		6.24	3.64	17.7	47.9	657		0.06 JQ	0.07 JQ	0.1 JQ	0.02 U	0.05 JQ
DRA20	DRA20-20180501-06-51	0"-6"	5/1/2018	FS		0.03 U		10.8	3.92	11.6	44.8	766		0.04 JQ	0.01 U	0.01 U	0.02 U	0.01 U
DRA20	DRA20-20180501-12-51	6"-12"	5/1/2018	FS		0.03 U		10.6	5.95	7.86	33.9	965		0.00901 U	0.01 U	0.01 U	0.02 U	0.01 U
DRA21	DRA21-20180501-01-51	0"-1"	5/1/2018	FS		0.04 U		3.9	5.1	20.3	65.7	864		0.04 JQ	0.01 U	0.06 JQ	0.02 U	0.04 JQ
DRA21	DRA21-20180501-06-51	0"-6"	5/1/2018	FS		0.03 U		4.73	6.11	21.2	67.9	932		0.02 JQ	0.01 U	0.03 JQ	0.02 U	0.02 JQ
DRA21	DRA21-20180501-12-51	6"-12"	5/1/2018	FS		0.00666 U		5.21	6.05	27.5	48.3	1180		0.04 JQ	0.01 U	0.01 U	0.02 U	0.01 U
DRA22	DRA22-20180501-01-51	0"-1"	5/1/2018	FS		0.18 JQ		4.01	4.22	18.6	60.7	691		0.05 JQ	0.01 U	0.12 JQ	0.02 U	0.06 JQ
DRA22	DRA22-20180501-06-51	0"-6"	5/1/2018	FS		0.24 JH		4.85	5.48	26.9	99.9	814		0.03 JQ	0.01 U	0.01 U	0.02 U	0.01 U
DRA22	DRA22-20180501-12-51	6"-12"	5/1/2018	FS		0.26 JH		4.72	5.25	15.4	109	938		0.03 JQ	0.01 U	0.01 U	0.02 U	0.01 U
DRA23	DRA23-20180502-01-51	0"-1"	5/2/2018	FS		0.03 U		6.17	7.88	34.9	26.5	595		0.02 JQ	0.01 U	0.01 U	0.02 U	0.01 U
DRA23	DRA23-20180502-06-51	0"-6"	5/2/2018	FS		0.0071 U		10.6	17.4	39.9	54	1050		0.09 JQ	0.13 JQ	0.21 JQ	0.03 JQ	0.11 JQ
DRA23	DRA23-20180502-12-51	6"-12"	5/2/2018	FS		0.00742 U		6.74	13.6 JK	33.9 JK	24.8	1130 JK		1.23 JQ	1.57 JQ	1.61 JQ	0.46 JQ	1.35 JQ
DRA23	DRA23-20180502-12-52	6"-12"	5/2/2018	FD		0.00743 U		7.99	35.3 JK	19.6 JK	23.7	3580 JK		0.09 U	0.13 U	0.17 U	0.24 U	0.18 U
DRA24	DRA24-20180501-01-51	0"-1"	5/1/2018	FS		0.03 U		3.96	5.71	32.7	14.9	553		0.03 JQ	0.04 JQ	0.06 JQ	0.02 U	0.05 JQ
DRA24	DRA24-20180501-06-51	0"-6"	5/1/2018	FS		0.03 U		3.32	4.58	27.5	12.5	505		0.02 JQ	0.03 JQ	0.04 JQ	0.02 U	0.03 JQ
DRA24	DRA24-20180501-12-51	6"-12"	5/1/2018	FS		0.03 U		3.55	5.95	25.4	20	269		0.02 JQ	0.03 JQ	0.04 JQ	0.02 U	0.03 JQ
DRA25	DRA25-20180502-01-51	0"-1"	5/2/2018	FS		0.02 U		2.03	2.15	20.5	3.71	193 JK		0.22 JQ	0.17 JQ	0.13 U	0.19 U	0.19 JQ
DRA25	DRA25-20180502-06-51	0"-6"	5/2/2018	FS		0.03 U		1.88	1.19	13.2	4.89	129 JK		0.29 JQ	0.33 JQ	0.14 U	0.19 U	0.2 JQ
DRA26	DRA26-20180502-01-51	0"-1"	5/2/2018	FS		0.33 JK		4.45	5.06	64.2	19	439		4.89	7.28	12	1.23 JQ	4.67
DRA26	DRA26-20180502-06-51	0"-6"	5/2/2018	FS		0.03 U		4.05	5.01	46	17.1	534		2.85 JQ	4.06 JK	5.68 JK	1.11 JQH	5.19 JH
DRA26	DRA26-20180502-12-51	6"-12"	5/2/2018	FS		0.27 JK		7.43	8.53	283	29.2	1030		0.09 U	0.12 U	0.16 U	0.22 U	0.17 U
DRA27	DRA27-20180502-01-51	0"-1"	5/2/2018	FS		0.02 U		4.2	5.64	50.1	21.1	494		2.47	2.75	3.49	0.45 JQ	1.19 JQ
DRA27	DRA27-20180502-06-51	0"-6"	5/2/2018	FS		0.03 U		4.63	6.69	70.4	30.4	714		2	2.69	4.36	0.85 JQ	2.39
DRA27	DRA27-20180502-12-51	6"-12"	5/2/2018	FS		0.03 U		5.57	9.23	29.3	24.4	839		0.66 JQ	0.99 JQ	1.54 JQ	0.24 JQ	0.91 JQ
DRA28	DRA28-20180502-01-51	0"-1"	5/2/2018	FS		38.7		6.93	10.9	1120	82.4	1130 JK		0.15 JQ	0.21 JQ	0.4	0.06 JQ	0.23 JQ
DRA28	DRA28-20180502-06-51	0"-6"	5/2/2018	FS		4.53		7.77	14.7	295	57.6	1340		0.06 JQ	0.11 JQ	0.2 JQ	0.02 JQ	0.1 JQ



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	Analyte			Aroclors	Total PCBs	Metals	Arsenic	Cobalt	Copper	Lead	Manganese	SVOCs	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Dibenz(a,h)anthracene	Indeno(1,2,3-cd)pyrene
	CAS.NO				GCSV-07-1		7440-38-2				7439-96-5		56-55-3				193-39-5
	Units  Site Specific Cleanup Levels				mg/kg		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Station	Site Specific Cleanup Levels Sample ID De	pth Date	Type		1		20	23	3100	400	1800		11	1.1	11	1.1	11
DRA28	DRA28-20180502-24-51 12"		FS		2.35		8.54	17.9	64.5	 42.5	1600 JK		0.17 JQ	0.12 U	0.15 U	0.21 U	0.16 U
DRA28	DRA28-20180502-12-51 6"-		FS		3.02		6.91	12.9	40.9	45	1400 JK		0.17 JQ 0.02 JQ	0.02 JQ	0.13 U	0.21 U	0.02 JQ
DRA29	DRA29-20181004-01-51 0"	<del></del>			0 UND		9.25	8.04	31.7	28.5	1270		0.0016 U		0.001 U		
DRA29	DRA29-20181004-06-51 0"		FS		0 UND		11.2	8.8	30.7	26.1	1500		0.0010				
DRA29		-6" 10/4/2018			0 UND		11	9.12	28.6	25.2	1500		0.0052	0.001	0.0057	0.039	0.04
DRA29	DRA29-20181004-12-51 6"-		<del> </del>		0 UND		12.1	10	15.5	68.7	1590		0.0032 0.0016 U		0.0037 0.0012 U		
DRA30		-1" 10/4/2018	<b>-</b>		0 UND		11.5	6.56	19.7	32.4	1070		0.0034 J		0.0012 U		
DRA30	DRA30-20181004-06-51 0"	<del>- +</del>	FS		0 UND		53.6	6.35	16.6	60.1	1160		0.0041	0.011	0.0099	0.017	0.02
DRA30	DRA30-20181004-12-51 6"-		FS		0 UND		33.9	7.12	13.4	31.6	1270		0.0033 J	0.003 J	0.0043	0.018	0.016
DRA31		-1" 10/4/2018	<del>                                     </del>		0 UND		3.34	4.15	8.81	9.57	372		0.0038 J		0.0012 U		
DRA31		-6" 10/4/2018	FS		0 UND		7.83	6.41	17.5	24.4	755		0.0026 J		0.0012 U		
DRA31	DRA31-20181004-12-51 6"-	<u></u>			0 UND		5.07	7.34	14.1	20.1	711		0.0091		0.0012 U		
DRA32		-1" 10/4/2018			0 UND		6.04	5.3	34.2	34.4	785		0.015	0.001 U	0.0021 J		-
DRA32	DRA32-20181004-06-51 0"				0 UND		12.3	5.76	27.7	56.1	878		0.0016 U		0.0012 U		
DRA32	DRA32-20181004-06-52 0"				0 UND		7.36	6.29	29.7	52.3	1070		0.0016 U		0.0012 U		
DRA32	DRA32-20181004-12-51 6"-		FS		0 UND		7.82	5.64	11.2	119	858		0.0016 U				0.0008 U
EAS01	EAS01-20180501-01-51 0"		FS		0.00619 U		12.7	5.34	10.4	30.9	962		0.02 JQ	0.01 U	0.01 U	0.02 U	0.01 U
EAS01	EAS01-20180501-06-51 0"	-6" 5/1/2018			0.00675 U		16.9	5.53	9.89	27.4	1070		0.00886 U	0.01 U	0.01 U	0.02 U	0.01 U
EAS01	EAS01-20180501-12-51 6"-				0.00669 U		12.6	5.67	7.31	17.6	1090		0.00877 U	0.01 U	0.01 U	0.02 U	0.01 U
EAS02	EAS02-20180501-01-51 0"	-1" 5/1/2018	FS		0.03 U		8.66	5.25	20.9	44.2	1080		0.00937 U	0.01 U	0.01 U	0.02 U	0.01 U
EAS02	EAS02-20180501-06-51 0"	-6" 5/1/2018	FS		0.00678 U		7.4	5.29	12.6	27.4	1150		0.00883 UJK	0.01 U	0.01 U	0.02 U	0.01 U
EAS02	EAS02-20180501-12-51 6"-	12" 5/1/2018	FS		0.00678 U		7.22	5.2	12.2	26.9	1020		0.02 JQ	0.01 U	0.05 JQ	0.02 U	0.01 U
EAS03	EAS03-20180501-01-51 0"	-1" 5/1/2018	FS		1.32 JK		4.3	4.88	1400	75.4	1000		0.08 JQ	0.01 U	0.01 U	0.02 U	0.01 U
EAS03	EAS03-20180501-06-51 0"	-6" 5/1/2018	FS		2.18		8.8	8.8	225	108	1440		0.02 JQ	0.01 U	0.01 U	0.02 U	0.01 U
EAS03	EAS03-20180501-12-51 6"-	12" 5/1/2018	FS		0.22		6.52	7.04	29.7	42.8	1560		0.02 JQ	0.01 U	0.01 U	0.02 U	0.01 U
EAS04	EAS04-20180501-01-51 0"	-1" 5/1/2018	FS		4.22		4.91	6.68	2310	240	1240		0.04 JQ	0.01 U	0.07 JQ	0.02 U	0.01 U
EAS04	EAS04-20180501-06-51 0"	-6" 5/1/2018	FS		1.97		5.34	7.18	438	78.4	1440		0.00895 U	0.01 U	0.01 U	0.02 U	0.01 U
EAS04	EAS04-20180501-12-51 6"-	12" 5/1/2018	FS		0.64 JH		7.7	11.5	243	35.7	2180		0.00864 U	0.01 U	0.01 U	0.02 U	0.01 U
EAS05	EAS05-20180502-01-51 0"	-1" 5/2/2018	FS		3.67 JK		7.29	7.3	275	47.1	1120		0.07 JQL	0.11 JQL	0.21 JQL	0.02 UJL	0.13 JQL
EAS05	EAS05-20180502-06-51 0"	-6" 5/2/2018	FS		15.2		6.73	7.3	527	31.9	1300		9.8	13.3	16.5	2.97 JQ	15.2
EAS05	EAS05-20180502-12-51 6"-	12" 5/2/2018	FS		2.22		6.15	12.3	46.2	21.5	1970		0.03 JQ	0.04 JQ	0.07 JQ	0.02 U	0.07 JQ



	Aroclors	Total PCBs	Metals	Arsenic	Cobalt 7440-48-4	Copper 7440-50-8	Fe ad. 7439-92-1	Manganese	SVOCs	Benzo(a)anthracene	Benzo(a)pyrene ကို ၁	Benzo(b)fluoranthene	Dibenz(a,h)anthracene	Indeno(1,2,3-cd)pyrene				
	CAS.NO Units					mg/kg		mg/kg	mg/kg	mg/kg	mg/kg	7439-96-5 mg/kg		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Si	ite Specific Cleanup Levels					1		20	23	3100	400	1800		11	1.1	11	1.1	11
Station	Sample ID	Depth	Date	Type														
EAS06	EAS06-20180502-01-51	0"-1"	5/2/2018	FS		64.2		5.12	4.28	277	26.4	602 JK		0.09 JQ	0.16 JQ	0.33 JQ	0.05 JQ	0.2 JQ
EAS06	EAS06-20180502-06-51	0"-6"	5/2/2018	FS		30.3		7.92	7.73	736	30.4	913 JK		0.02 JQ	0.03 JQ	0.01 U	0.02 U	0.03 JQ
EAS06	EAS06-20180502-24-51	12"-24"	5/2/2018	FS		0.25		4.77	14.9	26	19.7	2040		0.00874 U	0.01 U	0.01 U	0.02 U	0.01 U
EAS06	EAS06-20180502-12-51	6"-12"	5/2/2018	FS		4.9		10.5	13.8	2040	40.7	1910 JK		0.00869 U	0.01 U	0.01 U	0.02 U	0.01 U
EAS07	EAS07-20180503-01-51	0"-1"	5/3/2018	FS		95.1		8.69	10.3	1490	63.5	1430 JK		0.00833 U	0.02 JQ	0.01 U	0.02 U	0.02 JQ
EAS07	EAS07-20180503-06-51	0"-6"	5/3/2018	FS		32.6		9.93	5.14	884	37.6	692 JK		0.02 JQ	0.04 JQ	0.07 JQ	0.01 U	0.04 JQ
EAS07	EAS07-20180503-24-51	12"-24"	5/3/2018	FS		2.42		4.25	19.6	21.3	29.3	2970		0.00861 U	0.01 U	0.01 U	0.02 U	0.01 U
EAS07	EAS07-20180503-24-52	12"-24"	5/3/2018	FD		3.94		5.06	16.3	15.6	18.9	2040		0.00865 U	0.01 U	0.01 U	0.02 U	0.01 U
EAS07	EAS07-20180503-36-51	24"-36"	5/3/2018	FS		72.6		2.74	3.78	111	14.6	858		0.00902 U	0.01 U	0.01 U	0.02 U	0.01 U
EAS07	EAS07-20180503-12-51	6"-12"	5/3/2018	FS		1.33 JL		5.38	15	32.1	40.7	1480		0.00905 U	0.01 U	0.01 U	0.02 U	0.01 U
EAS08	EAS08-20180503-01-51	0"-1"	5/3/2018	FS		4.12 JL		6.42	3.16	393	16.9	557		0.06 JQ	0.12 JQ	0.19 JQ	0.03 JQ	0.11 JQ
EAS08	EAS08-20180503-06-51	0"-6"	5/3/2018	FS		8.51		6.94	6.67	420	21.6	1090		0.03 JQ	0.06 JQ	0.09 JQ	0.01 U	0.06 JQ
EAS08	EAS08-20180503-24-51	12"-24"	5/3/2018	FS		0.91 JK		9.96	14.6	62.5 JK	30	1550 JK		0.00927 U	0.01 U	0.01 U	0.02 U	0.01 U
EAS08	EAS08-20180503-24-52	12"-24"	5/3/2018	FD		3.25 JK		4.76	17.3	25.6 JK	23.6	1840 JK		0.00867 U	0.01 U	0.01 U	0.02 U	0.01 U
EAS08	EAS08-20180503-36-51	24"-36"	5/3/2018	FS		0.08 JL		5.98	16.3	29.2	21.3	2070		0.00891 U	0.01 U	0.01 U	0.02 U	0.01 U
EAS08	EAS08-20180503-12-51	6"-12"	5/3/2018	FS		0.58 JL		12.6	15.5	62.8	28.2	1930		0.00885 U	0.01 U	0.01 U	0.02 U	0.01 U

Notes:

FS - Field Sample

FD - Field Duplicate

NP - Not Published

mg/kg - milligrams per kilogram.

" - Inches

H - High bias

J - The identification of the analyte is acceptable; the reported value is an estimate

K - Unknown bias

L - Low bias

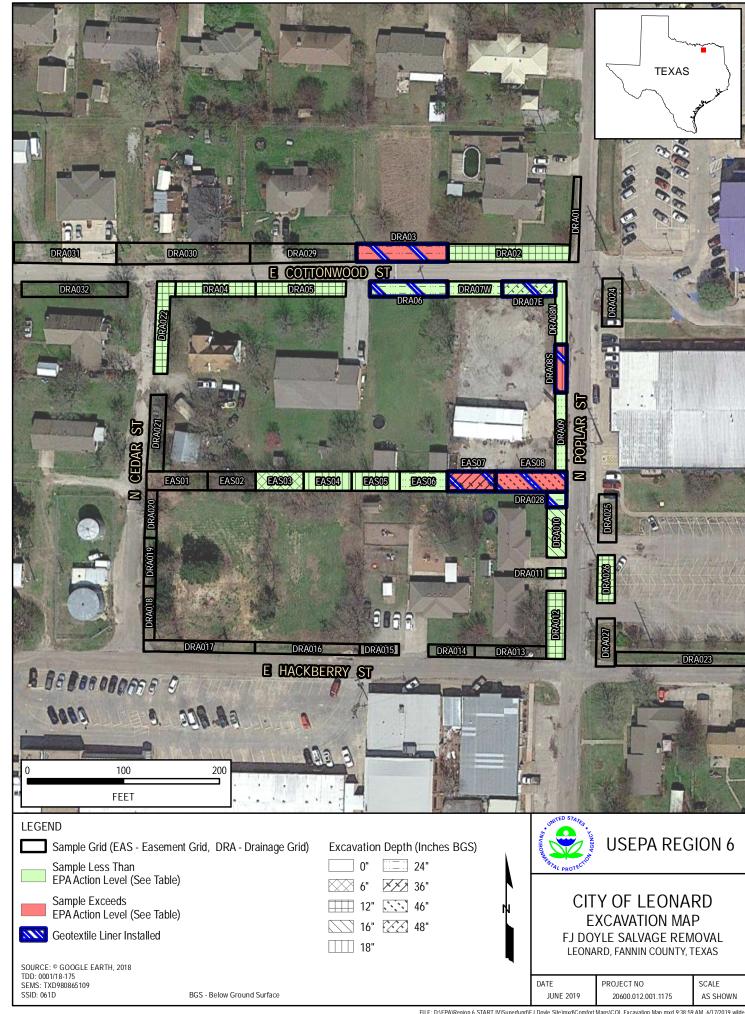
Q - Detected below the quantitation limit

U - Analyte not detected

**Bold** - Value exceeds the detection limit for specific sample analyte

Highlighted value exceeds the Cleanup level for the specific sample analyte





### Removal Table Soil Analytical Data Soil Confirmation Samples - City of Leonard Leonard, Fannin County, Texas

	Analyte							Arsenic	Cobalt	Copper	Lead	Manganese	SVOCs	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Dibenz(a,h)anthracene	Indeno(1,2,3-cd)pyrene
	CAS.NO					GCSV-07-1		7440-38-2	7440-48-4	7440-50-8	7439-92-1	7439-96-5		56-55-3	50-32-8	205-99-2	53-70-3	193-39-5
	Units					mg/kg		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
	Site Specific Cleanup Levels					1		20	23	3100	400	1800		11	1.1	11	1.1	11
Station	Sample ID	Depth	Date	Туре														
DRA02	DRA02-20190109-12-56	12"-12"	1/9/2019	FS		0.038		8.73	12.7	23	25.4	1660		0.0022 JQ	0.0022 JQ	0.0025 JQ	0.0016 U	0.0019 JQ
DRA03	DRA03-20190115-24-56	24"-24"	1/15/2019	FS		4.3		5.37	9.96	10.9	12.9	1410		0.0016 U	0.001 U	0.0072	0.0016 U	0.0008 U
DRA04	DRA04-20190201-12-56	12"-12"	2/1/2019	FS		0.1		3.42	4.54	13.5	6.49	932		0.0016 U	0.001 U	0.0012 U	0.0016 U	0.0008 U
DRA05	DRA05-20190201-12-56	12"-12"	2/1/2019	FS		0.041		18.8	9.01	125	61.4	1570		0.0016 U	0.001 U	0.0012 U	0.0016 U	0.0008 U
DRA06	DRA06-20181205-24-56	24"-24"	12/5/2018	FS		0.067		7.69	7.91	18.7	7.79	1110		0.049	0.06	0.078	0.011	0.053
DRA07E	DRA07E-20190213-48-56	48"-48"	2/13/2019	FS		0.0772		5.93	6.27	8.95	7.81	1100		0.0016 U	0.001 U	0.0012 U	0.0016 U	0.0008 U
DRA07E	DRA07E-20190213-48-57	48"-48"	2/13/2019	FD		0.079		5.01	5.24	6.85	5.46	1160		0.0016 U	0.001 U	0.0012 U	0.0016 U	0.0008 U
DRA07W	DRA07W-20190201-24-56	24"-24"	2/1/2019	FS		0.045		3.46	4.25	10.7	5.86	1300		0.0016 U	0.001 U	0.0012 U	0.0016 U	0.0008 U
DRA09	DRA09-20190117-24-56	24"-24"	1/17/2019	FS		0.045		5.94	11.7	22.5	19	835		0.0016 U	0.0019 JQ	0.0022 JQ	0.0016 U	0.0008 U
DRA10	DRA010-20181203-16-56	16"-16"	12/3/2018	FS		0.8		9.48	13.3 JL	97.2	35.5	1240		0.033	0.046	0.094	0.013	0.06
DRA11	DRA011-20181203-12-56	12"-12"	12/3/2018	FS		0.58		18.9	12.5 JL	193	36.1	1190		0.13	0.18	0.39	0.037	0.19
DRA12	DRA012-20181204-12-56	12"-12"	12/4/2018	FS		0 U		7.01	12.2	35.4 B	33.8	1180		0.056	0.057	0.091	0.0094	0.041
DRA22	DRA022-20190114-12-56	12"-12"	1/14/2019	FS		0.033		4.91	6.85	10.9	55.7	1220		0.0032 JQ	0.0043 JQ	0.0051	0.0016 U	0.0032 JQ
DRA26	DRA26-20190107-12-56	12"-12"	1/7/2019	FS		0.029		7.15	8.96	46.8	28.6	950		0.12	0.19	0.3	0.035	0.18
DRA28	DRA028-20181217-24-56	24"-24"	12/17/2018	FS		0.039		6.69	12.9	35.5	25.8 JH	1280 JK		0.0075	0.0062	0.0099 JH	0.0024 JQ	0.0056
EAS03	EAS03-20181115-06-56	6"-6"	11/15/2018	FS		0.047		8.62	7.45	68.7	64.2	1290		0.0055	0.0055	0.0088	0.0077	0.0085
EAS04	EAS04-20181130-18-56		11/30/2018			0.079		7.52	7.3 JL	19.3	10.9 JL	1190		0.0031 JQ	0.002 JQ	0.0033 JQ	0.0016 U	0.0019 JQ
EAS05	EAS05-20181203-18-56	18"-18"	12/3/2018	FS		0.051		5.89	7.07 JL	16.8	12.9	1080		0.0048	0.0033 JQ	0.0058	0.0016 U	0.0018 JQ
EAS06	EAS06-20181217-24-56		12/17/2018			0.0089		4.84	7.03	11.3	13.2 JH	434 JK		0.0016 U	0.001 U	0.0019 JQK	0.0016 U	0.0008 U
EAS06	EAS06-20181217-24-57	24"-24"	12/17/2018	FD		0.045		4.61	7.39	12.9	12.7 JH	1510 JK		0.011	0.0057	0.017 JK	0.0022 JQ	0.0066
EAS07	EAS07-20190115-36-56	36"-36"	1/15/2019	FS		4.8		5.09	9.33	24.8	17.7	1140		0.0044	0.0039 JQ	0.0057	0.0016 U	0.0025 JQ
EAS08	EAS08-20190114-46-56	46"-46"	1/14/2019	FS		25		8.72	17.6	257	28.9	2330		0.014	0.037	0.067	0.0092	0.04

Notes:

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mg/kg - milligrams per kilogram.

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J - The identification of the analyte is acceptable; the reported value is an estimate

K - Unknown bias

L - Low bias

Q - Detected below the quantitation limit

U - Analyte not detected

**Bold** - Value exceeds the detection limit for specific sample analyte

Highlighted value exceeds the Cleanup level for the specific sample analyte



#### UNITED STATES ENVIRONMENTAL PROTECTION AGENCY



REGION 6 1201 ELM STREET, SUITE 500 DALLAS, TEXAS 75270-2102

19 June 2019

(b)	<b>(6)</b>	
Leonar	d. Texas 754	152

RE: F.J. Doyle Salvage, Property Identification # FJD02 Soil Removal Action at 905 N. Poplar St.

Dear (b) (6) Owners of (b) (6) Leonard, TX 75452. Property legal description: COLLEGE ADDN, (b) (6)

The purpose of this letter is to provide you with documentation confirming that the United States Environmental Protection Agency (EPA) recently completed the removal of soil contaminated by polychlorinated biphenyls (PCBs), semivolatile organic compounds (SVOCs), and metals on your property and surrounding properties; and, remediation consisted of removal of soil from various locations on your property. The remediation activities were conducted based on previous sampling results reviewed by the EPA, the Texas Commission on Environmental Quality (TCEQ), and the Agency for Toxic Substances and Disease Registry (ATSDR). The removal assessment activities in the area were conducted between 26 April 2018 and 05 October 2018. The removal action activities in the area were conducted between 05 November 2018 and 19 February 2019. The maximum excavation depth (variable due to the depth of bedrock) on your property at (b) (6) was up to 24 inches below the ground surface. Your property was then backfilled with clean soil and sodded, seeded, backfilled with limestone rock, or some combination of those. See the attached analytical summary table and map for sampling results for your property and surrounding City of Leonard right-of-way properties.

Please save this document for your permanent records. If you sell, transfer, or refinance the property you will have documentation of the PCB, SVOCs, and metal contamination and the EPA removal action conducted on your property.

The EPA thanks you for your patience and understanding as we know that cleanup activities of this nature are disruptive to the community. If you have any questions concerning the work conducted on your property, you can contact me at 214-665-6609.

Sincerely,

Gary Moore

Federal On-Scene Coordinator

U.S. EPA Region 6 - Superfund Division

#### Attachments:

Assessment Map Assessment Table Excavation Map Removal Table

State of Texas

County of Could

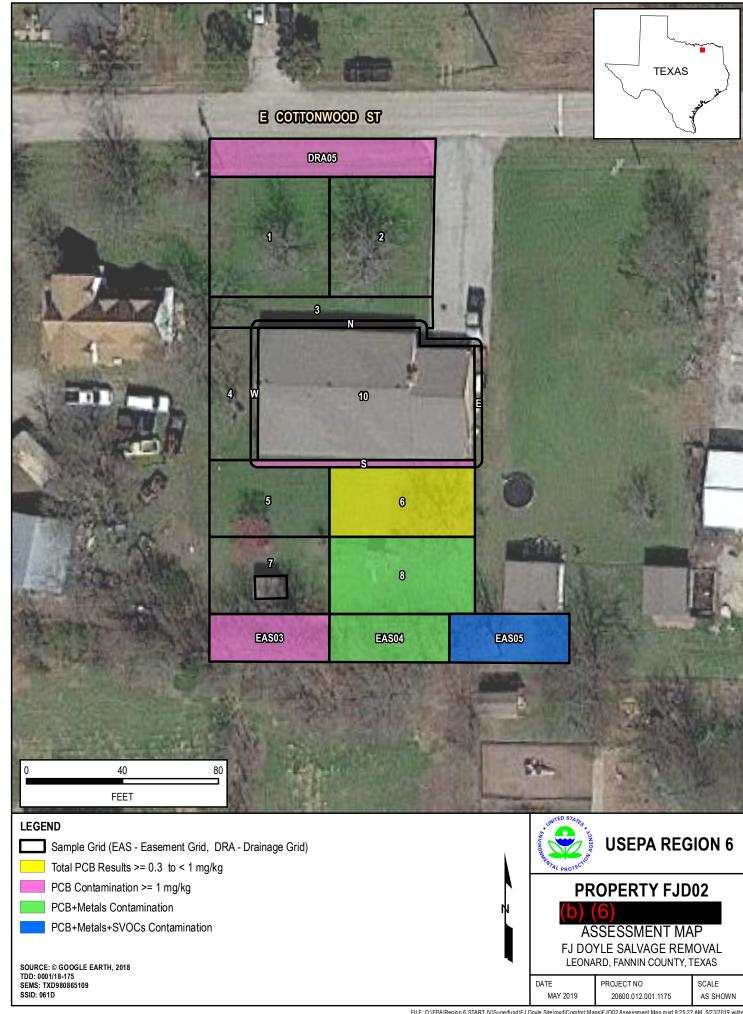
Before me, And Gamelly on this day personally appeared ARY MORE known to me (or proved to me on the oath of Appeared or through (description of identity card or other document) to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he executed the same for the purposes and consideration therein expressed.

Given under my hand and seal of office this 19th day of June, (year). 2019

Votary Public's Signature

ANVI GANDHI Notary Public STATE OF FEXAS My Comm. Exp. 04-18-23 Notary ID # 13 198105-1

(Personalized Seal)



# Assessment Table Soil Analytical Data Assessment Sample Results - (b) (6) - FJD02 Leonard, Fannin County, Texas

	Analyte CAS.NO Units				Aroclors	Total PCBs GCSV-07-1 mg/kg	Metals	Arsenic 7440-38-2 mg/kg	Cobalt 7440-48-4 mg/kg	Copper 7440-50-8 mg/kg	Fe ad. 7439-92-1 mg/kg	Manganese 7439-96-5 mg/kg	SVOCs	Benzo(a)anthracene 56-55 mg/kg	Benzo(a)pyrene 50-32-8 mg/kg	Benzo(b)fluoranthene 99-2 mg/kg	Dibenz(a,h)anthracene 70-3 mg/kg	Indeno(1,2,3-cd)pyrene 3-39-5 mg/kg
	Site Specific Cleanup Levels					1		20	23	3100	400	1800		11	1.1	11	1.1	11
Station	Sample ID	Depth	Date	Type														
DRA05	DRA05-20180501-01-51	0"-1"	5/1/2018			1.26		17.6	5.4	2570	164	732		0.04 JQ	0.06 JQ	0.1 JQ	0.02 U	0.08 JQ
DRA05	DRA05-20180501-06-51	0"-6"	5/1/2018			2.95 JH		12.4	5.35	1700	135	672		0.02 JQ	0.01 U	0.01 U	0.02 U	0.01 U
DRA05	DRA05-20180501-12-51		5/1/2018			0.09 JK		10.9	3.06	128	16.6	958		0.00912 U	0.01 U	0.01 U	0.02 U	0.01 U
EAS03	EAS03-20180501-01-51	0"-1"	5/1/2018			1.32 JK		4.3	4.88	1400	75.4	1000		0.08 JQ	0.01 U	0.01 U	0.02 U	0.01 U
EAS03	EAS03-20180501-06-51	0"-6"	5/1/2018	_		2.18		8.8	8.8	225	108	1440		0.02 JQ	0.01 U	0.01 U	0.02 U	0.01 U
EAS03	EAS03-20180501-12-51	6"-12"	5/1/2018	FS		0.22		6.52	7.04	29.7	42.8	1560		0.02 JQ	0.01 U	0.01 U	0.02 U	0.01 U
EAS04	EAS04-20180501-01-51	0"-1"	5/1/2018			4.22		4.91	6.68	2310	240	1240		0.04 JQ	0.01 U	0.07 JQ	0.02 U	0.01 U
EAS04	EAS04-20180501-06-51	0"-6"	5/1/2018			1.97		5.34	7.18	438	78.4	1440		0.00895 U	0.01 U	0.01 U	0.02 U	0.01 U
EAS04	EAS04-20180501-12-51	6"-12"	5/1/2018	FS		0.64 JH		7.7	11.5	243	35.7	2180		0.00864 U	0.01 U	0.01 U	0.02 U	0.01 U
EAS05	EAS05-20180502-01-51	0"-1"	5/2/2018	FS		3.67 JK		7.29	7.3	275	47.1	1120		0.07 JQL	0.11 JQL	0.21 JQL	0.02 UJL	0.13 JQL
EAS05	EAS05-20180502-06-51	0"-6"	5/2/2018	FS		15.2		6.73	7.3	527	31.9	1300		9.8	13.3	16.5	2.97 JQ	15.2
EAS05	EAS05-20180502-12-51	6"-12"	5/2/2018	FS		2.22		6.15	12.3	46.2	21.5	1970		0.03 JQ	0.04 JQ	0.07 JQ	0.02 U	0.07 JQ
FJD02-01	FJD02-01-20180501-01-51	0"-1"	5/1/2018	FS		0.03 U		13.4	9.4	32.6	114	1230		0.01 JQ	0.01 U	0.01 U	0.02 U	0.01 U
FJD02-01	FJD02-01-20180501-06-51	0"-6"	5/1/2018	FS		0.00679 U		31.8	10.6	18.2	106	1850		0.00885 U	0.01 U	0.01 U	0.02 U	0.01 U
FJD02-01	FJD02-01-20180501-12-51	6"-12"	5/1/2018	FS		0.00705 U		7.57	14.2	15.6	44.3	2320		0.00918 U	0.01 U	0.01 U	0.02 U	0.01 U
FJD02-02	FJD02-02-20180501-01-51	0"-1"	5/1/2018	FS		0.00655 U		12.3	6.56	36.3	31.9	1080		0.02 JQ	0.02 JQ	0.02 JQ	0.02 U	0.02 JQ
FJD02-02	FJD02-02-20180501-06-51	0"-6"	5/1/2018	FS		0.00688 U		17.7	13.9	27.7	33.4	2130		0.00884 U	0.01 U	0.01 U	0.02 U	0.01 U
FJD02-02	FJD02-02-20180501-12-51	6"-12"	5/1/2018	FS		0.00679 U		7.47	15.8	15.7	25.5	2190		0.00885 U	0.01 U	0.01 U	0.02 U	0.01 U
FJD02-03	FJD02-03-20180501-01-51	0"-1"	5/1/2018	FS		0.06		8.75	7.53	26.7	75.4	1260		0.00932 U	0.01 U	0.01 U	0.02 U	0.01 U
FJD02-03	FJD02-03-20180501-06-51	0"-6"	5/1/2018	FS		0.03 U		11	9.66	28.2	122	1560		0.00922 U	0.01 U	0.01 U	0.02 U	0.01 U
FJD02-03	FJD02-03-20180501-12-51	6"-12"	5/1/2018	FS		0.02 JQ		18.2	14	15.2	26.4	2100		0.00906 U	0.01 U	0.01 U	0.02 U	0.01 U
FJD02-04	FJD02-04-20180501-01-51	0"-1"	5/1/2018	FS		0.03 U		9.48	7.8	59.5	79.6	1020		0.03 JQ	0.01 U	0.06 JQ	0.02 U	0.03 JQ
FJD02-04	FJD02-04-20180501-06-51	0"-6"	5/1/2018	FS		0.03 U		14.6	13.6	70.5	105	1540		0.00868 U	0.01 U	0.01 U	0.02 U	0.01 U
FJD02-04	FJD02-04-20180501-12-51	6"-12"	5/1/2018	FS		0.00651 U		12.1	9.65	23.5	65.1	1550		0.00854 U	0.01 U	0.01 U	0.02 U	0.01 U
FJD02-05	FJD02-05-20180501-01-51	0"-1"	5/1/2018	FS		0.06		18.9	7.36	121	40.5	1160		0.02 JQ	0.02 JQ	0.03 JQ	0.02 U	0.03 JQ
FJD02-05	FJD02-05-20180501-06-51	0"-6"	5/1/2018	FS		0.00665 U		16.9	10.1	78.6	27.2	1410		0.01 JQ	0.01 U	0.01 JQ	0.02 U	0.01 JQ
FJD02-05	FJD02-05-20180501-12-51	6"-12"	5/1/2018	FS		0.0071 U		4.61	8.04	15.7	11.4	1240		0.00913 U	0.01 U	0.01 U	0.02 U	0.01 U
FJD02-06	FJD02-06-20180501-01-51		5/1/2018			0.76 JK		17.2	6.41	33.3	91	977		0.02 JQ	0.01 U	0.01 U	0.02 U	0.01 U
FJD02-06	FJD02-06-20180501-06-51		5/1/2018	_	(	0.00662 U		15.7	9.31	603	61.6	1500		0.00869 U	0.01 U	0.01 U	0.02 U	0.01 U
FJD02-06	FJD02-06-20180501-12-51	6"-12"	5/1/2018	FS		0.0067 U		9.54	10.5	451	13.9	1490		0.00867 U	0.01 U	0.01 U	0.02 U	0.01 U



## Assessment Table Soil Analytical Data Assessment Sample Results - (b) (6) - FJD02 Leonard, Fannin County, Texas

	Analyte			Aroclors	Total PCBs	Metals	Arsenic	Cobalt	Copper	Lead	Manganese	SVOCs	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Dibenz(a,h)anthracene	Indeno(1,2,3-cd)pyrene
	CAS.NO				GCSV-07-1					7439-92-1			56-55-3		205-99-2		
	Units				mg/kg		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
G	Site Specific Cleanup Levels	- I - D		Tr.	1		20	23	3100	400	1800		11	1.1	11	1.1	11
Station	Sample ID	Depth	Date	Type													
FJD02-07	FJD02-07-20180501-01-51	0"-1"	5/1/2018	FS	0.00639 U		10.3	5.35	168	53.5	817		0.12 JQ	0.11 JQ	0.16 JQ	0.02 JQ	0.1 JQ
FJD02-07	FJD02-07-20180501-06-51	0"-6"	5/1/2018	FS	0.19		19.7	8.63	101	72.4	1360		0.02 JQ	0.01 JQ	0.01 U	0.02 U	0.02 JQ
FJD02-07	FJD02-07-20180501-12-51	6"-12"	5/1/2018	FS	0.00686 U		9.94	5.97	10.6	17	1130		0.00888 U	0.01 U	0.01 U	0.02 U	0.01 U
FJD02-08	FJD02-08-20180501-01-51	0"-1"	5/1/2018	FS	4.71		27.8	9.49	1190	158	1420		0.03 JQ	0.04 JQ	0.06 JQ	0.02 U	0.05 JQ
FJD02-08	FJD02-08-20180501-06-51	0"-6"	5/1/2018	FS	4.21 JK		18.7	8.36	6740 JK	402 JK	1480 JK		0.01 JQ	0.01 U	0.03 JQ	0.02 U	0.01 JQH
FJD02-08	FJD02-08-20180501-12-51	6"-12"	5/1/2018	FS	0.04 JK		40.9	7.73	45.7	18.3	1340		0.00841 U	0.01 U	0.01 U	0.02 U	0.01 JQ
FJD02-10E	FJD02-10-DLE-20180502-06-51	0"-6"	5/2/2018	FS	0.12 JK		NA	NA	NA	NA	NA		NA	NA	NA	NA	NA
FJD02-10N	FJD02-10-DLN-20180502-06-51	0"-6"	5/2/2018	FS	0.00748 U		NA	NA	NA	NA	NA		NA	NA	NA	NA	NA
FJD02-10S	FJD02-10-DLS-20180502-06-51	0"-6"	5/2/2018	FS	4.38		NA	NA	NA	NA	NA		NA	NA	NA	NA	NA
FJD02-10W	FJD02-10-DLW-20180502-06-51	0"-6"	5/2/2018	FS	0.02 JQK		NA	NA	NA	NA	NA		NA	NA	NA	NA	NA

## Notes:

FS - Field Sample

FD - Field Duplicate

NP - Not Published

mg/kg - milligrams per kilogram.

" - Inches

H - High bias

J - The identification of the analyte is acceptable; the reported value is an estimate

K - Unknown bias

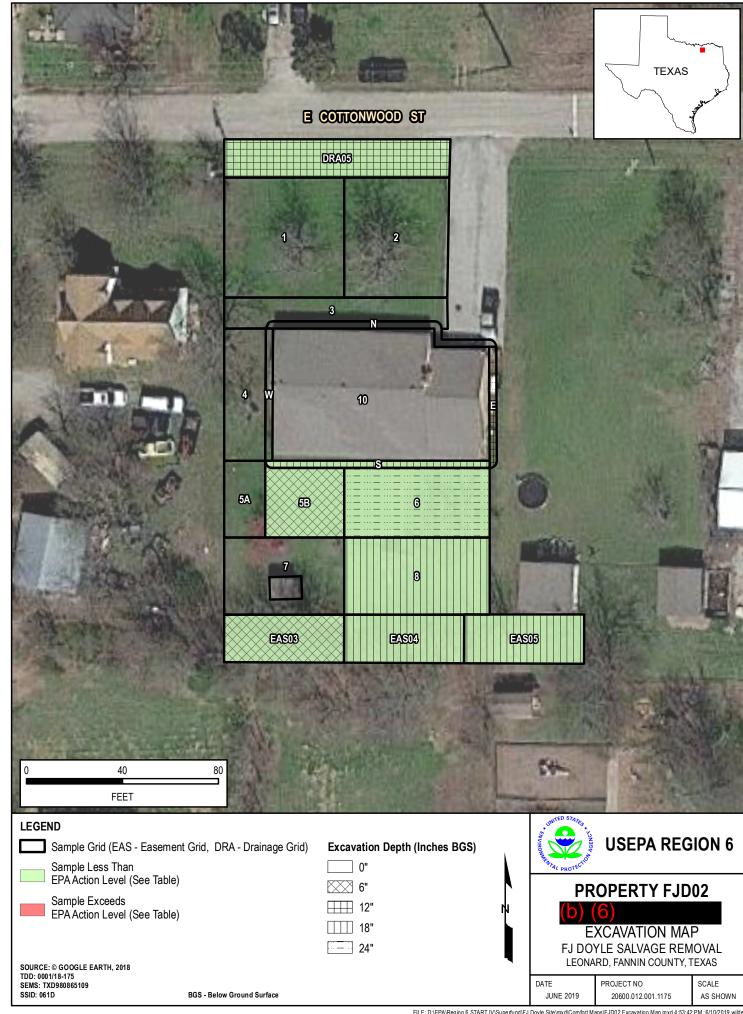
L - Low bias

Q - Detected below the quantitation limit

U - Analyte not detected

**Bold** - Value exceeds the detection limit for specific sample analyte





## Removal Table Soil Analytical Data Confirmation Sample Results - (b) (6) - FJD02 Leonard, Fannin County, Texas

	Analyte				Aroclors	Total PCBs	Metals	Arsenic	Cobalt	Copper	Lead	Manganese	SVOCs	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Dibenz(a,h)anthracene	Indeno(1,2,3-cd)pyrene
	CAS.NO					GCSV-07-1		7440-38-2	7440-48-4	7440-50-8	7439-92-1	7439-96-5		56-55-3	50-32-8	205-99-2	53-70-3	193-39-5
	Units					mg/kg		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
	Site Specific Cleanup Levels					1		20	23	3100	400	1800		11	1.1	11	1.1	11
Station	Sample ID	Depth	Date	Type						-		1						
DRA05	DRA05-20190201-12-56	12"-12"	2/1/2019	FS		0.041		18.8	9.01	125	61.4	1570		0.0016 U	0.001 U	0.0012 U	0.0016 U	0.0008 U
EAS03	EAS03-20181115-06-56	6"-6"	11/15/2018	FS		0.047		8.62	7.45	68.7	64.2	1290		0.0055	0.0055	0.0088	0.0077	0.0085
EAS04	EAS04-20181130-18-56	18"-18"	11/30/2018	FS		0.079		7.52	7.3 JL	19.3	10.9 JL	1190		0.0031 JQ	0.002 JQ	0.0033 JQ	0.0016 U	0.0019 JQ
EAS05	EAS05-20181203-18-56	18"-18"	12/3/2018	FS		0.051		5.89	7.07 JL	16.8	12.9	1080		0.0048	0.0033 JQ	0.0058	0.0016 U	0.0018 JQ
FJD02-05B	FJD02-05B-20181115-06-56	6"-6"	11/15/2018	FS		0 U		14.9	7.83	82.4	15.7	1100		0.0024 JQ	0.0023 JQ	0.0037 JQ	0.0016 U	0.0012 JQ
FJD02-06	FJD02-06-20181203-24-56	24"-24"	12/3/2018	FS		0 U		5.71	6.5 JL	7.4	7.41	718		0.0016 U	0.001 U	0.0012 U	0.0016 U	0.0008 U
FJD02-08	FJD02-08-20181130-18-56	18"-18"	11/30/2018	FS		0 U		9.48	5.62 JL	12.5	6.88 JL	927		0.0016 U	0.001 U	0.0012 U	0.0016 U	0.0008 U
FJD02-10S	FJD02-10S-20181128-18-56	18"-18"	11/28/2018	FS		0 U		9.31	12.2 JJL	24	15.8	1450		0.013	0.014	0.018	0.0041	0.015

Notes:

FS - Field Sample

FD - Field Duplicate

NP - Not Published

mg/kg - milligrams per kilogram.

" - Inches

H - High bias

J - The identification of the analyte is acceptable; the reported value is an estimate

K - Unknown bias

L - Low bias

Q - Detected below the quantitation limit

U - Analyte not detected

**Bold** - Value exceeds the detection limit for specific sample analyte



## UNITED STATES ENVIRONMENTAL PROTECTION AGENCY



REGION 6 1201 ELM STREET, SUITE 500 DALLAS, TEXAS 75270-2102

19 June 2019



RE: F.J. Doyle Salvage, Property Identification # FJD03 Soil Removal Action at 905 N. Poplar St.

Dear (b) (6) : Owner of (b) (6) Leonard, TX 75452. Property legal description: COLLEGE ADDN, (b) (6)

The purpose of this letter is to provide you with documentation confirming that the United States Environmental Protection Agency (EPA) recently completed the removal of soil contaminated by polychlorinated biphenyls (PCBs), semivolatile organic compounds (SVOCs), and metals on your property and surrounding properties; and, remediation consisted of removal of soil from various locations on your property. The remediation activities were conducted based on previous sampling results reviewed by the EPA, the Texas Commission on Environmental Quality (TCEQ), and the Agency for Toxic Substances and Disease Registry (ATSDR). The removal assessment activities in the area were conducted between 26 April 2018 and 05 October 2018. The removal action activities in the area were conducted between 05 November 2018 and 19 February 2019. The maximum excavation depth (variable due to the depth of bedrock) on your property at (b) (6) was up to 30 inches below the ground surface. Your property was then backfilled with clean soil and sodded, seeded, backfilled with limestone rock, or some combination of those.

In areas on your property and surrounding properties where contaminated soil remains at final excavation depth an orange geotextile liner was placed as a contamination notification for possible future excavation activities. Additionally, the EPA allowed the installation of the orange geotextile liner in some areas prior to receiving analytical results when maximum excavation depth was achieved and failure to backfill would delay project completion (in these areas you can disregard the use of the orange geotextile liner warning). See the attached analytical summary table and map for sampling results for your property and surrounding City of Leonard right-of-way properties, as well as locations of where the orange geotextile liner was applied to your property.

Please save this document for your permanent records. If you sell, transfer, or refinance the property you will have documentation of the PCB, SVOCs, and metal contamination and the EPA removal action conducted on your property.

The EPA thanks you for your patience and understanding as we know that cleanup activities of this nature are disruptive to the community. If you have any questions concerning the work conducted on your property, you can contact me at 214-665-6609.

## Sincerely,

Gary Moore

Federal On-Scene Coordinator

U.S. EPA Region 6 - Superfund Division

## Attachments:

Assessment Map Assessment Table Excavation Map Removal Table

State of Texas

County of COLLIN

Before me, ANYI GANDHI on this day personally appeared GARY MODRE known to me (or proved to me on the oath of Appendix of or through (description of identity card or other document) to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he executed the same for the purposes and consideration therein expressed.

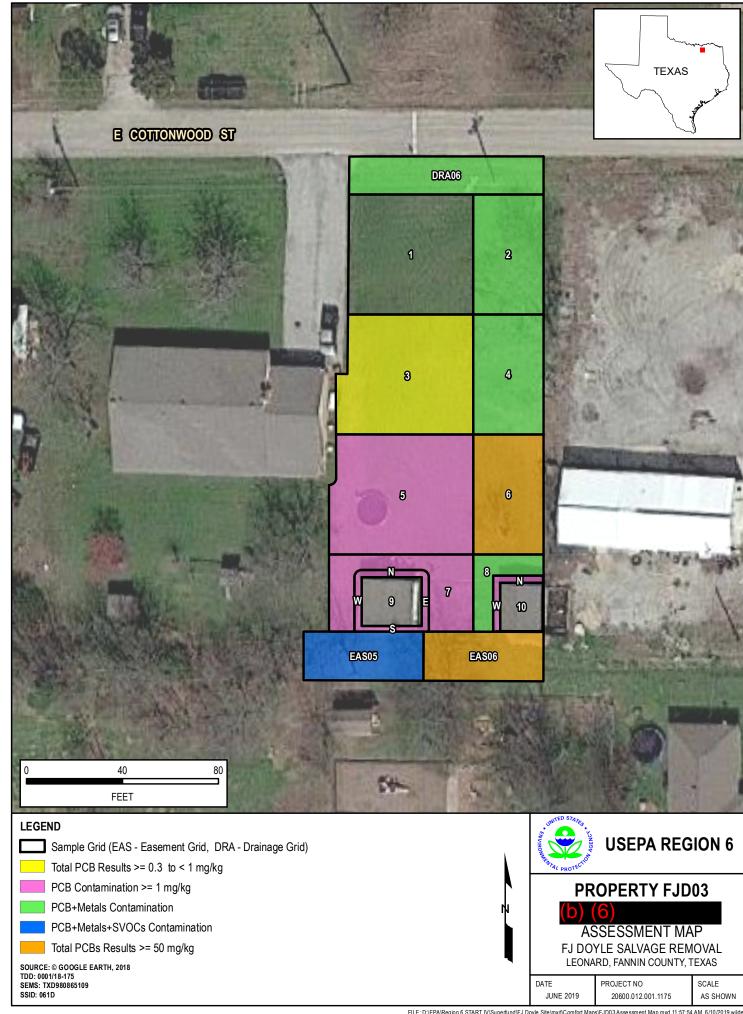
Given under my hand and seal of office this \_\_\_\_\_ law day of \_\_\_\_\_\_, (year). 2019

My Play of Term

ANVI GANDHI Notary Public STATE OF TEXAS My Comm. Exp. 04-18-23 Notary ID # 13198105-1

(Personalized Seal)

Notary Public's Signature



# Assessment Table Soil Analytical Data Assessment Sample Results -(b) (6) - FJD03 Leonard, Fannin County, Texas

	Analyte CAS.NO Units				Aroclors	Total PCBs GCSV-07-1 mg/kg	Metals	Arsenic 7440-38-2 mg/kg	mg/kg	Copper 7440-50-8 mg/kg	mg/kg	Manganese 7439-96-5 mg/kg	SVOCs	Benzo(a)anthracene 56-55 mg/kg	mg/kg	Benzo(b)fluoranthene 99-2 mg/kg	mg/kg	Indeno(1,2,3-cd)pyrene 39-5 mg/kg
	Site Specific Cleanup Levels				-	1		20	23	3100	400	1800		11	1.1	11	1.1	11
Station	Sample ID	Depth	Date	Type														
DRA06	DRA06-20180502-01-51	0"-1"	5/2/2018	FS		4.58 JK		59.1	5.99	3840	197	701		0.05 JQ	0.09 JQ	0.2 JQ	0.02 U	0.07 JQ
DRA06	DRA06-20180502-06-51	0"-6"	5/2/2018	FS		31.7		23.7	9.72	518	61.8	1400		0.00885 U	0.01 U	0.01 U	0.02 U	0.01 U
DRA06	DRA06-20180502-12-51		5/2/2018			9.65		21.9	8.41	173	36	946		0.00891 U	0.01 U	0.01 U	0.02 U	0.01 U
EAS05	EAS05-20180502-01-51	0"-1"	5/2/2018	FS		3.67 JK		7.29	7.3	275	47.1	1120		0.07 JQL	0.11 JQL	0.21 JQL	0.02 UJL	0.13 JQL
EAS05	EAS05-20180502-06-51	0"-6"	5/2/2018	FS		15.2		6.73	7.3	527	31.9	1300		9.8	13.3	16.5	2.97 JQ	15.2
EAS05	EAS05-20180502-12-51	6"-12"	5/2/2018	FS		2.22		6.15	12.3	46.2	21.5	1970		0.03 JQ	0.04 JQ	0.07 JQ	0.02 U	0.07 JQ
EAS06	EAS06-20180502-01-51	0"-1"	5/2/2018	FS		64.2		5.12	4.28	277	26.4	602 JK		0.09 JQ	0.16 JQ	0.33 JQ	0.05 JQ	0.2 JQ
EAS06	EAS06-20180502-06-51	0"-6"	5/2/2018	FS		30.3		7.92	7.73	736	30.4	913 JK		0.02 JQ	0.03 JQ	0.01 U	0.02 U	0.03 JQ
EAS06	EAS06-20180502-24-51	12"-24"	5/2/2018	FS		0.25		4.77	14.9	26	19.7	2040		0.00874 U	0.01 U	0.01 U	0.02 U	0.01 U
EAS06	EAS06-20180502-12-51	6"-12"	5/2/2018	FS		4.9		10.5	13.8	2040	40.7	1910 JK		0.00869 U	0.01 U	0.01 U	0.02 U	0.01 U
FJD03-01	FJD03-01-20180502-01-51	0"-1"	5/2/2018	FS		0.08 JL		14.7	12	90.2	34.4	1780		0.02 JQ	0.02 JQ	0.04 JQ	0.02 U	0.02 JQ
FJD03-01	FJD03-01-20180502-06-51	0"-6"	5/2/2018	FS		0.007 U		7.29	17.1	24	27.7	2400		0.00912 U	0.01 U	0.01 U	0.02 U	0.01 U
FJD03-01	FJD03-01-20180502-12-51	6"-12"	5/2/2018	FS		0.00716 U		10.1	18.1	37.9	29.8	2460		0.00927 U	0.01 U	0.01 U	0.02 U	0.01 U
FJD03-02	FJD03-02-20180501-01-51	0"-1"	5/1/2018	FS		7.15		11.3	8.09	256	31	1130		0.02 JQ	0.03 JQ	0.05 JQ	0.02 U	0.02 JQ
FJD03-02	FJD03-02-20180502-06-51	0"-6"	5/2/2018	FS		1.05 JL		15	13	93.5	34.6	1840		0.02 JQL	0.02 JQL	0.01 UJL	0.02 UJL	0.01 JQL
FJD03-02	FJD03-02-20180502-24-51	12"-24"	5/2/2018	FS		0.44 JK		5.1	21.1	17.7	20.4	3910 JK		0.00921 U	0.01 U	0.01 U	0.02 U	0.01 U
FJD03-02	FJD03-02-20180502-12-51	6"-12"	5/2/2018	FS		0.09 JK		7.04	15.4	35.6	24.6	2030		0.01 UJL	0.02 UJL	0.03 UJL	0.04 UJL	0.03 UJL
FJD03-03	FJD03-03-20180502-01-51	0"-1"	5/2/2018	FS		0.34		15.4	9.41	2630	57.2	1400		0.00869 U	0.01 U	0.01 U	0.04 JQ	0.07 JQ
FJD03-03	FJD03-03-20180502-06-51	0"-6"	5/2/2018	FS		0.1 JK		14.3 JK	13.4	180 JK	33.8 JK	1980 JK		0.00903 U	0.01 U	0.01 U	0.02 U	0.01 U
FJD03-03	FJD03-03-20180502-12-51	6"-12"	5/2/2018	FS		0.00694 U		6.65 JK	11.9	206 JK	16.6 JK	1390 JK		0.00898 U	0.01 U	0.01 U	0.02 U	0.01 U
FJD03-03	FJD03-03-20180502-12-52	6"-12"	5/2/2018	FD		0.04 JQK		11.5	16.7	75.9	31.3	2350		0.00912 U	0.01 U	0.01 U	0.02 U	0.01 U
FJD03-04	FJD03-04-20180502-01-51	0"-1"	5/2/2018	FS		0.57 JK		14.9	13.7	190 JK	28	1960		0.00874 U	0.01 JQ	0.01 U	0.02 U	0.01 U
FJD03-04	FJD03-04-20180502-01-52	0"-1"	5/2/2018	FD		1.83 JK		12.1	12	787 JK	38.6	1630		0.00873 U	0.01 U	0.01 U	0.02 U	0.01 U
FJD03-04	FJD03-04-20180502-06-51		5/2/2018			0.94		13.7	13.6	75.7	24.7	1950		0.02 JQ	0.01 U	0.01 U	0.02 U	0.01 U
FJD03-04	FJD03-04-20180502-24-51		5/2/2018			0.00722 U		5.21	16.2	52 JK	22.6	2050		0.00941 U	0.01 U	0.01 U	0.02 U	0.01 U
FJD03-04	FJD03-04-20180502-24-52	12"-24"	5/2/2018	FD		0.00799 U		5.1	15.7	27.3 JK	19.7	2140		0.01 U	0.01 U	0.01 U	0.02 U	0.02 U
FJD03-04	FJD03-04-20180502-12-51	_	5/2/2018			0.06 JL		5.64	16	35.3	21.7	2070		0.00939 UJL	0.01 UJL	0.01 UJL	0.02 UJL	0.01 UJL
FJD03-04	FJD03-04-20180502-12-52	6"-12"	5/2/2018	FD		0.03 JQ		4.72	15.4	38.7	19.5	2000		0.00944 U	0.01 U	0.01 U	0.02 U	0.01 U
FJD03-05	FJD03-05-20180502-01-51		5/2/2018			8.84		8.81	5.9	1410	25.4	842		0.02 JQ	0.02 JQ	0.01 U	0.02 U	0.02 JQ
FJD03-05	FJD03-05-20180502-06-51	0"-6"	5/2/2018	FS		2.16		9.13	8.65	115	17.2	1460 JK		0.00837 U	0.01 U	0.01 U	0.02 U	0.01 U



## Assessment Table Soil Analytical Data Assessment Sample Results - (b) (6) - FJD03 Leonard, Fannin County, Texas

	Analyte			Aroclors	Total PCBs	Metals	Arsenic	Cobalt	Copper	Lead	Manganese	SVOCs	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Dibenz(a,h)anthracene	Indeno(1,2,3-cd)pyrene
	CAS.NO				GCSV-07-1		7440-38-2		7440-50-8				56-55-3				193-39-5
	Units				mg/kg		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Station	Site Specific Cleanup Levels Sample ID	Depth	Date	Type	1		20	23	3100	400	1800		11	1.1		1.1	11
FJD03-05	FJD03-05-20180502-12-51	6"-12"	5/2/2018	• •	0.76 JL		6.05	9.03	84.8	16.3	1210		0.0088 UJL	0.01 UJL		0.02 UJL	
FJD03-06	FJD03-06-20180502-12-51	0"-1"	5/2/2018		22.7		7.66	5.63	2010	38.6	722		0.0088 03L	0.01 UJL	0.04 JQ	0.02 U	0.03 JQ
FJD03-06	FJD03-06-20180502-01-52	0"-1"	5/2/2018		16.9		7.28	5.75	1940	42.7	804 JK		0.00828 U	0.03 JQ	0.04 JQ	0.02 U	0.03 JQ
FJD03-06	FJD03-06-20180502-06-51	0"-6"	5/2/2018	FS	11.3		9.53	11.2	752	36.7	1820 JK		0.00856 U	0.01 U	0.01 U	0.02 U	0.01 U
FJD03-06	FJD03-06-20180502-24-51		5/2/2018	FS	0.27 JK		4.21	14	17.5	17.2	2040		0.0088 U	0.01 U	0.01 U	0.02 U	0.01 U
FJD03-06	FJD03-06-20180502-24-52		5/2/2018		57.1 JK		4.09	15.6	27.2	16.5	3000		0.00873 U	0.01 U	0.01 U	0.02 U	0.01 U
FJD03-06	FJD03-06-20180502-12-51	6"-12"	5/2/2018	FS	0.79 JK		6.97	14.6	77	20.1	2090 JK		0.00918 U	0.01 U	0.01 U	0.02 U	0.01 U
FJD03-07	FJD03-07-20180502-01-51	0"-1"	5/2/2018		6.51 JL		11	8.31	1480	76.8	1110		0.03 JQL	0.04 JQL			0.03 JQL
FJD03-07	FJD03-07-20180502-06-51	0"-6"	5/2/2018	FS	5.28		7.12	6.27	1810	39	947 JK		0.00831 U	0.01 U	0.01 U	0.02 U	0.01 U
FJD03-07	FJD03-07-20180502-12-51	6"-12"	5/2/2018	FS	0.88		6	8.15	397	22.2	1270		0.00914 U	0.01 U	0.01 U	0.02 U	0.01 U
FJD03-08	FJD03-08-20180502-01-51	0"-1"	5/2/2018	FS	2.74		3.3	2.28	83.6	10.9	407 JK		0.07 U	0.11 U	0.14 U	0.19 U	0.15 U
FJD03-08	FJD03-08-20180502-06-51	0"-6"	5/2/2018	FS	25.9		6.59	5.96	510	21.1	967 JK		0.00816 U	0.01 U	0.01 U	0.02 U	0.01 U
FJD03-08	FJD03-08-20180502-24-51	12"-24"	5/2/2018	FS	8.41		3.58	5.94	213	11.7	971 JK		0.00866 U	0.01 U	0.01 U	0.02 U	0.01 U
FJD03-08	FJD03-08-20180502-12-51	6"-12"	5/2/2018	FS	14.9		9.07	10.7	3570	86.9	1540		0.00841 U	0.01 U	0.01 U	0.02 U	0.01 U
FJD03-09NSEW	FJD03-09-DLNSEW-20180502-06-51	0"-6"	5/2/2018	FS	0.24 JK		NA	NA	NA	NA	NA		NA	NA	NA	NA	NA
FJD03-09NSEW	FJD03-09-DLNSEW-20180502-06-52	0"-6"	5/2/2018	FD	20.5 JK		NA	NA	NA	NA	NA		NA	NA	NA	NA	NA
FJD03-10NW	FJD03-10-DLNW-20180502-06-51	0"-6"	5/2/2018	FS	2.46		NA	NA	NA	NA	NA		NA	NA	NA	NA	NA
FJD03-10NW	FJD03-10-DLNW-20180502-06-52	0"-6"	5/2/2018	FD	2.02 JH		NA	NA	NA	NA	NA		NA	NA	NA	NA	NA

Notes:

FS - Field Sample

FD - Field Duplicate

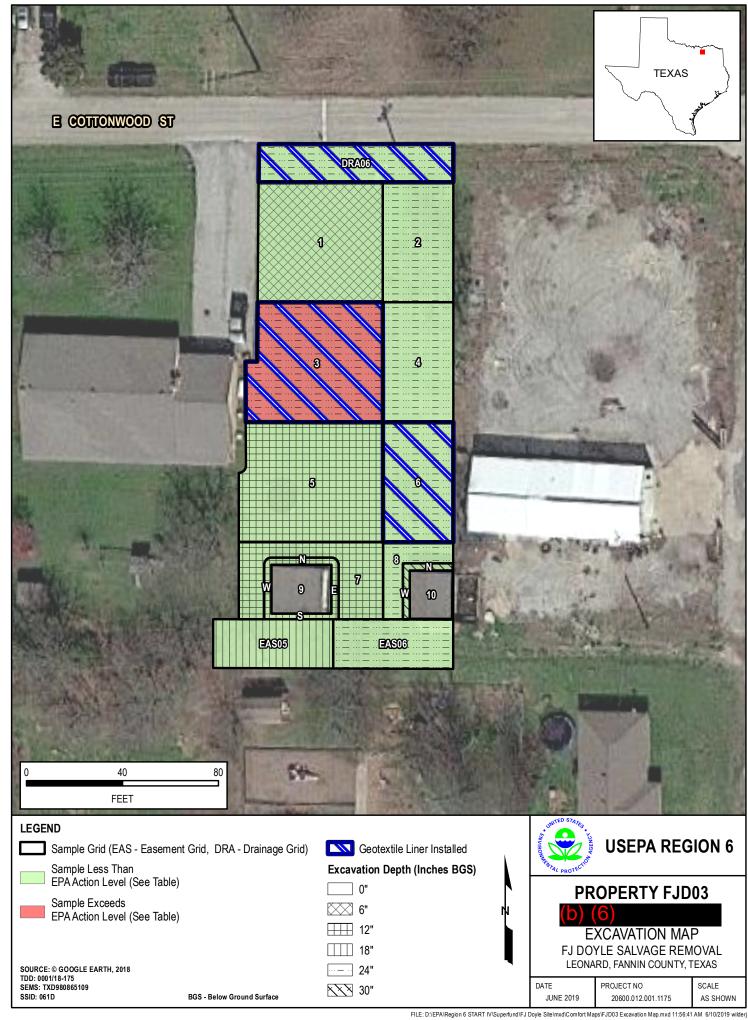
NP - Not Published

mg/kg - milligrams per kilogram.

- " Inches
- H High bias
- J The identification of the analyte is acceptable; the reported value is an estimate
- K Unknown bias
- L Low bias
- Q Detected below the quantitation limit
- U Analyte not detected

**Bold** - Value exceeds the detection limit for specific sample analyte





## Removal Table Soil Analytical Data Confirmation Sample Results - (b) (6) - FJD03 Leonard, Fannin County, Texas

	Analyte CAS,NO Units				Aroclors	Total PCBs GCSV-07-1	Metals			Copper 7440-50-8		Manganese 7439-96-5	SVOCs	Benzo(a)anthracene	Benzo(a)pyrene 32 5	Benzo(b)fluoranthene	Dibenz(a,h)anthracene	Indeno(1,2,3-cd)pyrene
	Site Specific Cleanup Levels					mg/kg 1		mg/kg 20	mg/kg 23	mg/kg 3100	mg/kg 400	mg/kg 1800		mg/kg 11	mg/kg 1.1	mg/kg 11	mg/kg 1.1	mg/kg
	Site Specific Cleanup Levels	Т	1			1		20	23	3100	400	1800		11	1.1	11	1.1	11
Station	Sample ID	Depth	Date	Type														
DRA06	DRA06-20181205-24-56	24"-24"	12/5/2018	FS		0.067		7.69	7.91	18.7	7.79	1110		0.049	0.06	0.078	0.011	0.053
EAS05	EAS05-20181203-18-56	18"-18"	12/3/2018	FS		0.051		5.89	7.07 JL	16.8	12.9	1080		0.0048	0.0033 JQ	0.0058	0.0016 U	0.0018 JQ
EAS06	EAS06-20181217-24-56	24"-24"	12/17/2018	FS		0.0089		4.84	7.03	11.3	13.2 JH	434 JK		0.0016 U	0.001 U	0.0019 JQK	0.0016 U	0.0008 U
EAS06	EAS06-20181217-24-57	24"-24"	12/17/2018	FD		0.045		4.61	7.39	12.9	12.7 JH	1510 JK		0.011	0.0057	0.017 JK	0.0022 JQ	0.0066
FJD03-01	FJD03-01-20181115-06-56	6"-6"	11/15/2018	FS		0.043		13.2	12.3	129	54.2	1720		0.0016 U	0.0013 JQ	0.0022 JQ	0.0016 U	0.0016 JQ
FJD03-02	FJD03-02-20181119-24-56	24"-24"	11/19/2018	FS		0 U		3.54	4.08	4.53	3.83 JL	1330		0.0016 U	0.001 U	0.0012 U	0.0016 U	0.0008 U
FJD03-03	FJD03-03-20181203-24-56	24"-24"	12/3/2018	FS		0 U		7.45	21.6 JL	13.6	16.6	3540		0.0042	0.006	0.0094	0.013	0.013
FJD03-04	FJD03-04-20181119-24-56	24"-24"	11/19/2018	FS		0 U		5.12	5.34	9.49	7.62 JL	1160		0.0016 U	0.001 U	0.0012 U	0.0016 U	0.0018 JQ
FJD03-05	FJD03-05-20181128-12-56	12"-12"	11/28/2018	FS		0 U		7.2	11.7 JL	31.8	15.4	1620		0.002 JQ	0.0017 JQ	0.0022 JQ	0.0016 U	0.0008 U
FJD03-06	FJD03-06-20181219-24-56	24"-24"	12/19/2018	FS		0.072		4.49	7.52	9.27	10	985		0.0016 U	0.001 U	0.0012 U	0.0016 U	0.0008 U
FJD03-07	FJD03-07-20181128-12-56	12"-12"	11/28/2018	FS		0.024		10	9.14 JL	2500	51.7	1020		0.002 JQ	0.001 U	0.0012 U	0.0016 U	0.0008 U
FJD03-07	FJD03-07-20181128-12-57		11/28/2018	FD		0 U		6.59	7.33 JL	2490	47.9	1030		0.0039 JQ	0.0023 JQ	0.0019 JQ		0.0008 U
FJD03-08	FJD03-08-20181119-24-56	24"-24"	11/19/2018	FS		0.72		4.24	4.16	49.5	8.5 JL	841		0.0016 U	0.001 U	0.0018 JQ	0.0016 U	0.0014 JQ
FJD03-09NSEW	FJD03-09NSEW-20181128-12-56	12"-12"	11/28/2018	FS		0 U		7.06	7.23 JL	2050 E	40	939		0.0037 JQ	0.001 U	0.0012 U	0.0016 U	0.0008 U
FJD03-10NW	FJD03-10NW-20181128-30-56	30"-30"	11/28/2018	FS		0 U		3.51	8.49 JL	30.1	6.03	1230		0.0016 U	0.001 U	0.0012 U	0.0016 U	0.0008 U

Notes:

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FD - Field Duplicate

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mg/kg - milligrams per kilogram.

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- H High bias
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**Bold** - Value exceeds the detection limit for specific sample analyte



## UNITED STATES ENVIRONMENTAL PROTECTION AGENCY



REGION 6 1201 ELM STREET, SUITE 500 DALLAS, TEXAS 75270-2102

19 June 2019

Danny Doyle, Garry Doyle, and Lynda Kaylor

(b) (6)

Leonard, Texas 75452

RE: F.J. Doyle Salvage, Property Identification # FJD04

Soil Removal Action at 905 N. Poplar St.

Dear Danny Doyle, Garry Doyle, and Lynda Kaylor: Owners of 905 N. Poplar St. Leonard, TX 75452. Property Legal Description: COLLEGE ADDN, BLOCK 14, LOT 7,8, ACRES .344

The purpose of this letter is to provide you with documentation confirming that the United States Environmental Protection Agency (EPA) recently completed the removal of soil contaminated by polychlorinated biphenyls (PCBs), semivolatile organic compounds (SVOCs), and metals on your property and surrounding properties; and, remediation consisted of removal of soil from various locations on your property. The remediation activities were conducted based on previous sampling results reviewed by the EPA, the Texas Commission on Environmental Quality (TCEQ), and the Agency for Toxic Substances and Disease Registry (ATSDR). The removal assessment activities in the area were conducted between 26 April 2018 and 05 October 2018. The removal action activities in the area were conducted between 05 November 2018 and 19 February 2019. The maximum excavation depth (variable due to the depth of bedrock) on your property at 905 N. Poplar St. was up to 48 inches below the ground surface. Your property was then backfilled with clean soil and sodded, seeded, backfilled with limestone rock, or some combination of those.

In areas on your property and surrounding properties where contaminated soil remains at final excavation depth an orange geotextile liner was placed as a contamination notification for possible future excavation activities. Additionally, the EPA allowed the installation of the orange geotextile liner in some areas prior to receiving analytical results when maximum excavation depth was achieved and failure to backfill would delay project completion (in these areas you can disregard the use of the orange geotextile liner warning). See the attached analytical summary table and map for sampling results for your property and surrounding City of Leonard right-of-way properties, as well as locations of where the orange geotextile liner was applied to your property.

Please save this document for your permanent records. If you sell, transfer, or refinance the property you will have documentation of the PCB, SVOCs, and metal contamination and the EPA removal action conducted on your property.

The EPA thanks you for your patience and understanding as we know that cleanup activities of this nature are disruptive to the community. If you have any questions concerning the work conducted on your property, you can contact me at 214-665-6609.

## Sincerely,

Gary Moore

Federal On-Scene Coordinator

U.S. EPA Region 6 - Superfund Division

## Attachments:

Assessment Map Assessment Table Excavation Map Removal Table

State of Texas

County of COLLIN

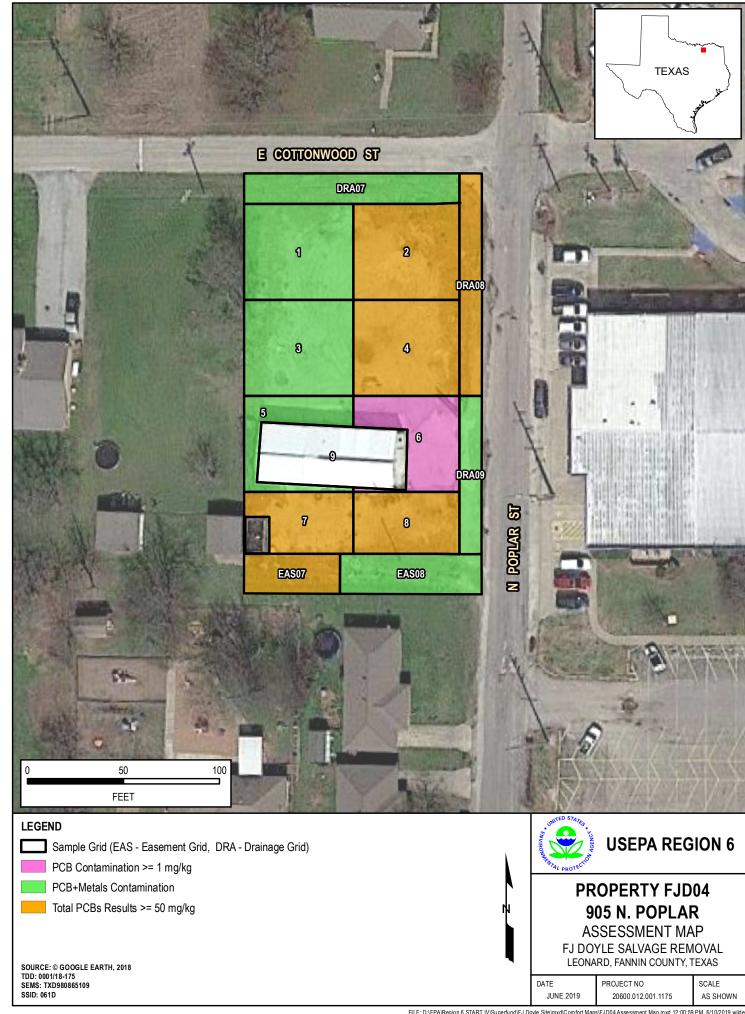
Before me, MVI GANDHI on this day personally appeared CAPY MODEE known to me (or proved to me on the oath of APPIRMATION or through (description of identity card or other document) to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he executed the same for the purposes and consideration therein expressed.

Given under my hand and seal of office this 19th day of June, (year). 2019.

otary Public's Signature

ANVI GANDHI
Notary Public
STATE OF TEXAS
My Comm. Exp. 04-18-23
Notary ID # 13198105-1

(Personalized Seal)



# Assessment Table Soil Analytical Data Assessment Sample Results - Doyle - FJD04 Leonard, Fannin County, Texas

Analyte				Aroclors	Total PCBs	Metals	Arsenic	Cobalt	Copper	Lead	Manganese	SVOCs	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Dibenz(a,h)anthracene	Indeno(1,2,3-cd)pyrene
CAS.NO					GCSV-07-1		7440-38-2	7440-48-4	7440-50-8	7439-92-1	7439-96-5		56-55-3	50-32-8	205-99-2	53-70-3	193-39-5
Units					mg/kg		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Site Specific Cleanup Le	vels				1		20	23	3100	400	1800		11	1.1	11	1.1	11
Station Sample ID	Depth	Date	Туре														
DRA07 DRA07-20180502-01	-51 0"-1"	5/2/2018	FS		2.88 JL		40.1	4.88	2150	92.5	584		0.08 U	0.11 U	0.15 U	0.21 U	0.16 U
DRA07 DRA07-20180502-06	-51 0"-6"	5/2/2018	FS		12.7		15.6	7.59	2860	142	879		0.03 JQ	0.04 JQ	0.01 U	0.02 U	0.05 JQ
DRA07 DRA07-20180502-24	-51 12"-24"	5/2/2018	FS		0.04 JQK		2.88 JK	3.52 JK	41.6	5.05 JK	910 JK		0.00942 UJL	0.01 UJL	0.01 UJL	0.02 UJL	0.01 UJL
DRA07 DRA07-20180502-24	-52 12"-24"	5/2/2018	FD		0.05 JK		6.05 JK	15.2 JK	42.1 JK	18.8 JK	2270 JK		0.009 U	0.01 U	0.01 U	0.02 U	0.01 U
DRA07 DRA07-20180502-12	-51 6"-12"	5/2/2018	FS		0.07 JK		10.1	14.7	121	21	2520		0.00956 U	0.01 U	0.01 U	0.02 U	0.01 U
DRA08 DRA08-20180502-03	-51 0"-1"	5/2/2018	FS		96.5		42.7	6.88	4230	129	918 JK		0.09 U	0.13 U	0.17 U	0.24 U	0.18 U
DRA08 DRA08-20180502-06	-51 0"-6"	5/2/2018	FS		2.4 JL		21.1	5.36	3980	139	604		0.09 JQL	0.13 JQL	0.01 UJL	0.03 JQL	0.16 JQL
DRA08 DRA08-20180502-24	-51   12"-24"	5/2/2018	FS		0.00739 U		8.25	16	84.7	23.3	2200 JK		0.00964 U	0.01 U	0.01 U	0.02 U	0.01 U
DRA08 DRA08-20180502-12	-51 6"-12"	5/2/2018	FS		0.00762 U		4.88 JK	11.4	111	22.1	1330		0.00993 U	0.01 U	0.01 U	0.02 U	0.01 U
DRA08 DRA08-20180502-12	-52 6"-12"	5/2/2018	FD		0.02 JQK		8.89 JK	10.4	123	21.9	1200		0.00878 U	0.01 U	0.01 U	0.02 U	0.01 U
DRA09 DRA09-20180502-03	-51 0"-1"	5/2/2018	FS		2.05		8.45	3.58 JQ	5270	52.2	474 JK		0.07 U	0.1 U	0.13 U	0.18 U	0.14 U
DRA09 DRA09-20180502-06	-51 0"-6"	5/2/2018	FS		3.06 JL		8.6	5.83	1560	163	588		0.05 JQ	0.07 JQ	0.09 JQ	0.02 U	0.05 JQ
DRA09 DRA09-20180502-24	-51   12"-24"	5/2/2018	FS		0.09 JK		4.65	10.1	77	20.4	1070		0.00832 U	0.01 U	0.01 U	0.02 U	0.01 U
DRA09 DRA09-20180502-12	-51 6"-12"	5/2/2018	FS		42.6		5.68	11.5	98.5	24.6	1660 JK		0.00831 U	0.01 U	0.01 U	0.02 U	0.01 U
EAS07 EAS07-20180503-01	-51 0"-1"	5/3/2018	FS		95.1		8.69	10.3	1490	63.5	1430 JK		0.00833 U	0.02 JQ	0.01 U	0.02 U	0.02 JQ
EAS07 EAS07-20180503-06	-51 0"-6"	5/3/2018	FS		32.6		9.93	5.14	884	37.6	692 JK		0.02 JQ	0.04 JQ	0.07 JQ	0.01 U	0.04 JQ
EAS07 EAS07-20180503-24	-51 12"-24"	5/3/2018	FS		2.42		4.25	19.6	21.3	29.3	2970		0.00861 U	0.01 U	0.01 U	0.02 U	0.01 U
EAS07 EAS07-20180503-24	-52 12"-24"	5/3/2018	FD		3.94		5.06	16.3	15.6	18.9	2040		0.00865 U	0.01 U	0.01 U	0.02 U	0.01 U
EAS07 EAS07-20180503-36	-51 24"-36"	5/3/2018	FS		72.6		2.74	3.78	111	14.6	858		0.00902 U	0.01 U	0.01 U	0.02 U	0.01 U
EAS07 EAS07-20180503-12	-51 6"-12"	5/3/2018	FS		1.33 JL		5.38	15	32.1	40.7	1480		0.00905 U	0.01 U	0.01 U	0.02 U	0.01 U
EAS08 EAS08-20180503-01	-51 0"-1"	5/3/2018	FS		4.12 JL		6.42	3.16	393	16.9	557		0.06 JQ	0.12 JQ	0.19 JQ	0.03 JQ	0.11 JQ
EAS08 EAS08-20180503-06	-51 0"-6"	5/3/2018	FS		8.51		6.94	6.67	420	21.6	1090		0.03 JQ	0.06 JQ	0.09 JQ	0.01 U	0.06 JQ
EAS08 EAS08-20180503-24	-51 12"-24"	5/3/2018	FS		0.91 JK		9.96	14.6	62.5 JK	30	1550 JK		0.00927 U	0.01 U	0.01 U	0.02 U	0.01 U
EAS08 EAS08-20180503-24	-52 12"-24"	5/3/2018	FD		3.25 JK		4.76	17.3	25.6 JK	23.6	1840 JK		0.00867 U	0.01 U	0.01 U	0.02 U	0.01 U
EAS08 EAS08-20180503-36	-51 24"-36"	5/3/2018	FS		0.08 JL		5.98	16.3	29.2	21.3	2070		0.00891 U	0.01 U	0.01 U	0.02 U	0.01 U
EAS08 EAS08-20180503-12	-51 6"-12"	5/3/2018	FS		0.58 JL		12.6	15.5	62.8	28.2	1930		0.00885 U	0.01 U	0.01 U	0.02 U	0.01 U
FJD04-01 FJD04-01-20180502-0	1-51 0"-1"	5/2/2018	FS		4.29 JL		12.8	4.77 JQ	4980	175	525 JK		0.04 JQ	0.06 JQ	0.01 U	0.01 U	0.07 JQ
FJD04-01 FJD04-01-20180502-0	6-51 0"-6"	5/2/2018			0.26 JK		6.98 JQ	8.1 JQ	5580	316	1070		0.02 JQL	0.01 JQL	0.01 UJL	0.02 UJL	0.01 JQL
FJD04-01 FJD04-01-20180502-2	4-51   12"-24"				0.14 JK		4.17	30.9	53.3	24.2	4490		0.0092 U	0.01 U	0.01 U	0.02 U	0.01 U
FJD04-01 FJD04-01-20180502-3	6-51 24"-36"	5/2/2018	FS		0.04 JK		4.36	15	141	33.7	1770		0.00913 UJL	0.01 UJL	0.01 UJL	0.02 UJL	0.01 UJL



# Assessment Table Soil Analytical Data Assessment Sample Results - Doyle - FJD04 Leonard, Fannin County, Texas

	Analyte CAS.NO				Aroclors	Total PCBs GCSV-07-1	Metals	Arsenic 7440-38-2	Cobalt 7440-48-4	Copper 7440-50-8	Fe aa a	Manganese 7439-96-5	SVOCs	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Dibenz(a,h)anthracene	Indeno(1,2,3-cd)pyrene
	Units					mg/kg		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
	Site Specific Cleanup Levels					1		20	23	3100	400	1800		11	1.1	11	1.1	11
Station	Sample ID	Depth	Date	Type														
FJD04-01	FJD04-01-20180502-12-51	6"-12"	5/2/2018	FS		0.25 JK		4.63	12.7	153	21.4	1240 JK		0.00964 U	0.01 U	0.01 U	0.02 U	0.01 U
FJD04-02	FJD04-02-20180502-01-51	0"-1"	5/2/2018	FS		92.9		68.2	23.3	4860	158	539 JK		0.03 JQ	0.04 JQ	0.08 JQ	0.01 U	0.03 JQ
FJD04-02	FJD04-02-20180502-06-51	0"-6"	5/2/2018	FS		0.44 JK		8.06	11	187	40.6	802 JK		0.00816 U	0.01 U	0.01 U	0.02 U	0.01 U
FJD04-02	FJD04-02-20180502-24-51	12"-24"	5/2/2018	FS		0.28		3.73	12.6	83.5	22.4	1780		0.00955 U	0.01 U	0.01 U	0.02 U	0.01 U
FJD04-02	FJD04-02-20180502-36-51	24"-36"	5/2/2018	FS		0.04 JK		3.91	15.1	90.8	22.8	1880		0.00909 U	0.01 U	0.01 U	0.02 U	0.01 U
FJD04-02	FJD04-02-20180502-12-51	6"-12"	5/2/2018	FS		0.12 JK		5.9	11.8	46.6	21.4	1460		0.00935 U	0.01 U	0.01 U	0.02 U	0.01 U
FJD04-02	FJD04-02-20180502-12-52	6"-12"	5/2/2018	FD		0.16 JK		5.65	16.1	34.9	32.2	1210		0.0093 U	0.01 U	0.01 U	0.02 U	0.01 U
FJD04-03	FJD04-03-20180502-01-51	0"-1"	5/2/2018	FS		1.99 JH		9.84 U	9.84 U	21800	341	293		0.02 JQ	0.03 JQ	0.05 JQ	0.01 U	0.02 JQ
FJD04-03	FJD04-03-20180502-06-51	0"-6"	5/2/2018	FS		0.25 JK		2.03 JQ	2.88 JQ	3010	54.9	286		0.00778 U	0.01 U	0.01 U	0.02 U	0.01 U
FJD04-03	FJD04-03-20180502-24-51	12"-24"	5/2/2018	FS		0.09 JK		5.02	14.9	360	27.5	2240		0.00928 U	0.01 U	0.01 U	0.02 U	0.01 U
FJD04-03	FJD04-03-20180502-36-51	24"-36"	5/2/2018	FS		0.37		3.84	14.4	122	20	1630		0.00913 U	0.01 U	0.01 U	0.02 U	0.01 U
FJD04-03	FJD04-03-20180502-12-51	6"-12"	5/2/2018	FS		0.04 JK		5.08	12.5	221	18	2810		0.0088 U	0.01 U	0.01 U	0.02 U	0.01 U
FJD04-04	FJD04-04-20180502-01-51	0"-1"	5/2/2018	FS		4.35 JK		28.6	3.68 U	9590	177	299		0.03 JQ	0.01 U	0.01 U	0.01 U	0.06 JQ
FJD04-04	FJD04-04-20180502-06-51	0"-6"	5/2/2018	FS		64.5		3.09	6.43	1660	35.2	867		0.00793 U	0.01 U	0.01 U	0.02 U	0.01 U
FJD04-04	FJD04-04-20180502-24-51	12"-24"	5/2/2018	FS		0.03 JQK		5.96	17.3	130	21.6	3730		0.02 JQ	0.02 JQ	0.01 U	0.02 U	0.01 U
FJD04-04	FJD04-04-20180502-36-51	24"-36"	5/2/2018	FS		0.18 JK		5.2	15.7	192	28.2	1230		0.00898 U	0.01 U	0.01 U	0.02 U	0.01 U
FJD04-04	FJD04-04-20180502-36-52	24"-36"	5/2/2018	FD		1.11 JK		4.34	12.9	158	23.5	1050		0.00943 U	0.01 U	0.01 U	0.02 U	0.01 U
FJD04-04	FJD04-04-20180502-12-51	6"-12"	5/2/2018	FS		0.23		9.44	4.86	340	34.3	427		0.00866 U	0.01 U	0.01 U	0.02 U	0.01 U
FJD04-05	FJD04-05-20180503-24-51	12"-24"	5/3/2018	FS		0.06 JK		5.15	15.9	122 JK	26.4	2140		0.01 U	0.01 U	0.01 U	0.02 U	0.01 U
FJD04-05	FJD04-05-20180503-24-52	12"-24"	5/3/2018	FD		0.09		5.15	15.5	333 JK	21.8	1990		0.05 JQ	0.1 JQ	0.21 JQ	0.03 JQ	0.09 JQ
FJD04-05	FJD04-05-20180503-36-51	24"-36"	5/3/2018	FS		0.02 JQ		5.67	14.7	24.1 JK	27.9	1600		0.00956 U	0.01 U	0.01 U	0.02 U	0.01 U
FJD04-05	FJD04-05-20180503-36-52	24"-36"	5/3/2018	FD		0.13		7.65	19.8	362 JK	27.8	2330		0.00927 U	0.01 U	0.01 U	0.02 U	0.01 U
FJD04-05	FJD04-05-20180503-12-51	6"-12"	5/3/2018	FS		0.00668 U		2.56	5.95	11.4 JK	5.21 JK	1020 JK		0.00854 U	0.01 U	0.01 U	0.02 U	0.01 U
FJD04-05	FJD04-05-20180503-12-52	6"-12"	5/3/2018	FD		1.24 JK		4.85	3.76	531 JK	57.6 JK	567 JK		0.00818 U	0.01 U	0.01 U	0.02 U	0.01 U
FJD04-06	FJD04-06-20180503-06-51	0"-6"	5/3/2018	FS		26.7		4.87	9.15	115	15.9	748		0.00827 U	0.12 JQ	0.01 U	0.02 U	0.11 JQ
FJD04-06	FJD04-06-20180503-24-51	12"-24"	5/3/2018	FS		0.00757 U		4.44	10.7	16.3	23.2	1370		0.0098 U	0.01 U	0.01 U	0.02 U	0.01 U
FJD04-06	FJD04-06-20180503-36-51	24"-36"	5/3/2018	FS		0.02 JQK		5.22	14.2	16.1	18.6	1310		0.00934 U	0.01 U	0.01 U	0.02 U	0.01 U
FJD04-06	FJD04-06-20180503-12-51	6"-12"	5/3/2018	FS		1.51 JK		5.99	7.91	118	37.5	805		0.00852 U	0.01 U	0.01 U	0.02 U	0.01 U
FJD04-07	FJD04-07-20180502-01-52	0"-1"	5/2/2018	FD		4.3		4.28 JQ	3.27 U	7180	577	526		0.08 JQ	0.12 JQ	0.23 JQ	0.04 JQ	0.18 JQ
FJD04-07	FJD04-07-20180503-01-51	0"-1"	5/3/2018	FS		14.8		5.04 JQ	3.37 U	9400	701	481		0.07 JQ	0.09 JQ	0.01 U	0.02 JQ	0.1 JQ
FJD04-07	FJD04-07-20180503-01-52	0"-1"	5/3/2018	FD		15.9		4.8 JQ	4.05 U	9510	1480	411		0.05 JQ	0.07 JQ	0.14 JQ	0.02 JQ	0.08 JQ



## Assessment Table Soil Analytical Data Assessment Sample Results - Doyle - FJD04 Leonard, Fannin County, Texas

	Analyte				Aroclors	Total PCBs	Metals	Arsenic	Cobalt	Copper	Lead	Manganese	SVOCs	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Dibenz(a,h)anthracene	Indeno(1,2,3-cd)pyrene
	CAS.NO Units					GCSV-07-1			7440-48-4		7439-92-1	7439-96-5		56-55-3	50-32-8	205-99-2		193-39-5
	Site Specific Cleanup Levels					mg/kg 1		mg/kg 20	mg/kg 23	mg/kg 3100	mg/kg 400	mg/kg 1800		mg/kg 11	mg/kg 1.1	mg/kg 11	mg/kg 1.1	mg/kg 11
Station	Sample ID	Depth	Date	Type														
FJD04-07	FJD04-07-20180503-06-51	0"-6"	5/3/2018			175		4.14	3.54	1140	62.3	396		0.00814 U	0.01 U	0.01 U	0.02 U	0.01 U
FJD04-07	FJD04-07-20180503-24-51					0.11 JK		5.41	15.6	125	38	2080		0.00961 U	0.01 U	0.01 U	0.02 U	0.01 U
FJD04-07	FJD04-07-20180503-36-51	<b>+</b>	· ·			34.1		5.03	11.5	84	32	1430		0.00937 U	0.01 U	0.01 U	0.02 U	0.01 U
FJD04-07	FJD04-07-20180503-12-51		5/3/2018			0.89 JK		5.7	18.9 JK	68.9	25.2	1690 JK		0.00965 U	0.01 U	0.01 U	0.02 U	0.01 U
FJD04-07	FJD04-07-20180503-12-52	6"-12"	5/3/2018	FD		6.82		6.36	12.1	37.5 JK	24.7	874 JK		0.02 JQ	0.01 U	0.01 U	0.02 U	0.01 U
FJD04-08	FJD04-08-20180503-01-51	0"-1"	5/3/2018	FS		38.5 JK		14.9	5.57 JQ	14300	357	551 JK		0.12 JQ	0.1 JQ	0.22 JQ	0.02 JQ	0.1 JQ
FJD04-08	FJD04-08-20180503-06-51	0"-6"	5/3/2018	FS		146		6.28 JQ	5.21 JQ	3230	141	612		0.06 JQ	0.1 JQ	0.01 U	0.02 JQ	0.09 JQ
FJD04-08	FJD04-08-20180503-24-51	12"-24"	5/3/2018	FS		0.68 JK		5.36	10.7	178	30.2	926		0.00949 U	0.01 U	0.01 U	0.02 U	0.01 U
FJD04-08	FJD04-08-20180503-36-51	24"-36"	5/3/2018	FS		1.7		5.32	14.1	189	41.9	1960		0.00909 U	0.01 U	0.01 U	0.02 U	0.01 U
FJD04-08	FJD04-08-20180503-12-51	6"-12"	5/3/2018	FS		3.49		4.79	8.16	212	36.3	689 JK		0.08 JQ	0.08 JQ	0.18 JQ	0.02 JQ	0.07 JQ
FJD04-09	FJD04-09-20180503-24-51	12"-24"	5/3/2018	FS		0.07 JK		7.08	16	23.1	22.2	1600		0.00992 U	0.01 U	0.01 U	0.02 U	0.01 U
FJD04-09	FJD04-09-20180503-36-51					0.08 JQK		8.56	9.73	46.5	41.5	1370		0.01 U	0.01 U	0.01 U	0.02 U	0.01 U
FJD04-09	FJD04-09-20180503-12-51	6"-12"	5/3/2018	FS		0.18 JK		1.72	2.32	1570	179	262		0.00799 U	0.01 U	0.01 U	0.02 U	0.01 U

## Notes:

FS - Field Sample

FD - Field Duplicate

NP - Not Published

mg/kg - milligrams per kilogram.

" - Inches

H - High bias

 $\ensuremath{\mathsf{J}}$  - The identification of the analyte is acceptable; the reported value is an estimate

K - Unknown bias

L - Low bias

Q - Detected below the quantitation limit

U - Analyte not detected

**Bold** - Value exceeds the detection limit for specific sample analyte





## Removal Table Soil Analytical Data Confirmation Sample Results - Doyle - FJD04 Leonard, Fannin County, Texas

	Analyte				Aroclors	Total PCBs	Metals	Arsenic	Cobalt	Copper	Lead	Manganese	SVOCs	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Dibenz(a,h)anthracene	Indeno(1,2,3-cd)pyrene
	CAS.NO Units					GCSV-07-1		7440-38-2	7440-48-4		7439-92-1	7439-96-5		56-55-3	50-32-8	205-99-2	53-70-3	193-39-5
	Site Specific Cleanup Levels					mg/kg 1		mg/kg 20	mg/kg 23	mg/kg 3100	mg/kg 400	mg/kg 1800		mg/kg 11	mg/kg 1.1	mg/kg 11	mg/kg 1.1	mg/kg 11
Station	Sample ID	Depth	Date	Туре														
DRA07E	DRA07E-20190213-48-56	48"-48"	2/13/2019	FS		0.0772		5.93	6.27	8.95	7.81	1100		0.0016 U	0.001 U	0.0012 U	0.0016 U	0.0008 U
DRA07E	DRA07E-20190213-48-57	48"-48"	2/13/2019	FD		0.079		5.01	5.24	6.85	5.46	1160		0.0016 U	0.001 U	0.0012 U		
DRA07W	DRA07W-20190201-24-56	24"-24"	2/1/2019	FS		0.045		3.46	4.25	10.7	5.86	1300		0.0016 U	0.001 U	0.0012 U	0.0016 U	0.0008 U
DRA08N	DRA08N-20190213-18-56	18"-18"	2/13/2019	FS		0.018		5.64	10.1	24.5	20	1070		0.0016 U	0.001 U	0.0012 U	0.0016 U	0.0008 U
DRA08S	DRA08S-20190205-18-56	18"-18"	2/5/2019	FS		0.087		5.75	14.2	20.1	23.6	2250		0.0016 U	0.0014 JQ	0.0026 JQ	0.0016 U	0.0008 U
DRA08S	DRA08S-20190205-18-57	18"-18"	2/5/2019	FD		0.085		5.49	13.4	19.6	20.9	2110		0.0016 U	0.001 U	0.0012 U	0.0016 U	0.0008 U
DRA09	DRA09-20190117-24-56	24"-24"	1/17/2019	FS		0.045		5.94	11.7	22.5	19	835		0.0016 U	0.0019 JQ	0.0022 JQ	0.0016 U	0.0008 U
EAS07	EAS07-20190115-36-56	36"-36"	1/15/2019	FS		4.8		5.09	9.33	24.8	17.7	1140		0.0044	0.0039 JQ	0.0057	0.0016 U	0.0025 JQ
EAS08	EAS08-20190114-46-56	46"-46"	1/14/2019	FS		25		8.72	17.6	257	28.9	2330		0.014	0.037	0.067	0.0092	0.04
FJD04-01	FJD04-01-20190201-36-56	36"-36"	2/1/2019	FS		0.187		4.63	7.07	116	14.4	1150		0.0016 U	0.001 U			0.0008 U
FJD04-02	FJD04-02-20190213-48-56	48"-48"	2/13/2019	FS		0.22		4.08	6.12	27.4	6.8	1310		0.0016 U		,		0.0017 JQ
FJD04-03	FJD04-03-20190128-36-56	36"-36"	1/28/2019	FS		3.1		4.98	5.89	33.4 B	11.8	914		0.0016 U	0.001 U	0.0012 U		<b>├</b>
FJD04-04	FJD04-04-20190205-48-56	48"-48"	2/5/2019	FS		0.029		4.45	7.81	66.1	12.4	1070		0.0016 U	0.001 U			0.0008 U
FJD04-05	FJD04-05-20190122-36-56	36"-36"	1/22/2019	FS		2.51		7.75	25.3	8.37	8	841		0.0016 U	0.001 U			0.0008 U
FJD04-06	FJD04-06-20190122-36-56	36"-36"	1/22/2019	FS		0.034		6.48	6.31	8.17	6.71	1380		0.0016 U	0.001 U			0.0008 U
FJD04-07	FJD04-07-20190107-36-56	36"-36"	1/7/2019	FS		2.7		3.22	4.87	26.6	7.42	990			0.0028 JQ			
FJD04-08	FJD04-08-20190114-46-56	46"-46"	1/14/2019	FS		7.7		6.17	9.99	59.9	17.1	1480		0.0016 U	0.0014 JQ	0.0026 JQ	0.0016 U	0.0021 JQ

## Notes:

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- " Inches
- H High bias
- J The identification of the analyte is acceptable; the reported value is an estimate
- K Unknown bias
- L Low bias
- Q Detected below the quantitation limit
- U Analyte not detected

**Bold** - Value exceeds the detection limit for specific sample analyte



## UNITED STATES ENVIRONMENTAL PROTECTION AGENCY



REGION 6 1201 ELM STREET, SUITE 500 DALLAS, TEXAS 75270-2102

19 June 2019

Brad Maxell, Leonard ISD Superintendent 1 Tiger Alley Leonard, Texas 75452

RE: F.J. Doyle Salvage, Property Identification # FJD05 Soil Removal Action at 905 N. Poplar St.

Dear Brad Maxwell: Regarding Leonard ISD property located at 900 N. Cedar St. Leonard, TX 75452. Property legal description: COLLEGE ADDN, BLOCK 14, LOT 9-12

The purpose of this letter is to provide Leonard Independent School District (ISD) with documentation confirming that the United States Environmental Protection Agency (EPA) recently completed the removal of soil contaminated by polychlorinated biphenyls (PCBs), semivolatile organic compounds (SVOCs), and metals on Leonard ISD property and surrounding properties; and, remediation consisted of removal of soil from various locations on Leonard ISD property. The remediation activities were conducted based on previous sampling results reviewed by the EPA, the Texas Commission on Environmental Quality (TCEQ), and the Agency for Toxic Substances and Disease Registry (ATSDR). The removal assessment activities in the area were conducted between 26 April 2018 and 05 October 2018. The removal action activities in the area were conducted between 05 November 2018 and 19 February 2019. The maximum excavation depth (variable due to the depth of bedrock) on Leonard ISD property at 900 N. Cedar St. was up to 24 inches below the ground surface. Leonard ISD properties were then backfilled with clean soil and sodded, seeded, backfilled with limestone rock, or some combination of those. See the attached analytical summary table and map for sampling results for Leonard ISD property and surrounding City of Leonard right-of-way properties.

Please save this document, if Leonard ISD sells, transfers, or refinances a property Leonard ISD will have documentation of the PCB, SVOCs, and metal contamination and the EPA removal action conducted on city properties.

The EPA thanks Leonard ISD for patience and understanding as we know that cleanup activities of this nature are disruptive to the community. If there are any questions concerning the work conducted on city property, please contact me at 214-665-6609.

Sincerely,

Gary Moore

Federal On-Scene Coordinator

U.S. EPA Region 6 - Superfund Division

## Attachments:

Assessment Map Assessment Table Excavation Map Removal Table

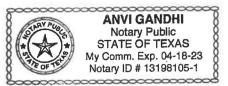
State of Texas

County of CoulN

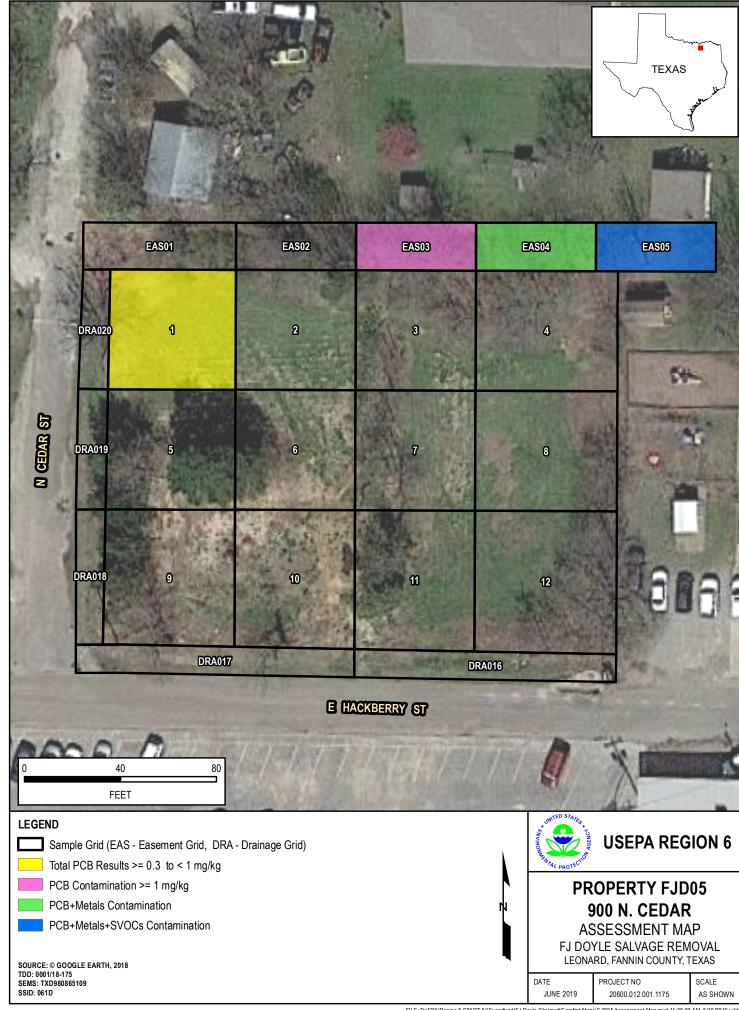
Before me, ANVI CANDEL on this day personally appeared CARY MODRE known to me (or proved to me on the oath of APPENATION or through (description of identity card or other document) to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he executed the same for the purposes and consideration therein expressed.

Given under my hand and seal of office this \_\_\_\_\_ day of \_\_\_\_\_, (year). 2019

orary Public's Signature



(Personalized Seal)



# Assessment Table Soil Analytical Data Assessment Sample Results - LeonardISD - FJD05 Leonard, Fannin County, Texas

	Analyte CAS.NO				Aroclors	Total PCBs GCSV-07-1	Metals	Arsenic 7440-38-2		Copper 7440-50-8		1	SVOCs	မenzo(a)anthracene 55 56				
	Units					mg/kg		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
	Site Specific Cleanup Levels					1		20	23	3100	400	1800		11	1.1	11	1.1	11
Station	Sample ID	Depth	Date	Туре														
DRA16	DRA16-20180501-01-51	0"-1"	5/1/2018	FS		0.03 U		5.27	6.89	20.6	47.2	895		0.19 JQ	0.22 JQ	0.3 JQ	0.04 JQ	0.18 JQ
DRA16	DRA16-20180501-06-51	0"-6"	5/1/2018	FS		0.00684 U		7.93	9.68	17.7	65.7	1270		0.05 JQ	0.07 JQ	0.08 JQ	0.02 U	0.06 JQ
DRA16	DRA16-20180501-12-51	6"-12"	5/1/2018	FS		0.00675 U		6.12	12.6	22.2	37.8	1220		0.03 JQ	0.02 JQ	0.03 JQ	0.02 U	0.02 JQ
DRA17	DRA17-20180501-01-51	0"-1"	5/1/2018	FS		0.03 U		4.4	5.26	19.6	47.8	745		0.17 JQ	0.23 JQ	0.33 JQ	0.05 JQ	0.21 JQ
DRA17	DRA17-20180501-06-51	0"-6"	5/1/2018	FS		0.03 U		4.84	5.69	15.5	44.8	825		0.23 JQ	0.26 JQ	0.47	0.06 JQ	0.23 JQ
DRA17	DRA17-20180501-12-51	6"-12"	5/1/2018	FS		0.00667 U		6.89	8.07	9.47	22.3	1080		O.08 JQ	0.1 JQ	0.13 JQ	0.02 JQ	0.1 JQ
DRA17	DRA17-20180501-12-52	6"-12"	5/1/2018	FD		0.00672 U		3.9 JK	8.55	12.5	30.1	1180		0.02 JQ	0.02 JQ	0.01 U	0.02 U	0.02 JQ
DRA18	DRA18-20180501-01-51	0"-1"	5/1/2018	FS		0.03 U		4.52	4.82	19.8	66.1	757		0.25 JQ	0.3 JQ	0.42	0.07 JQ	0.3 JQ
DRA18	DRA18-20180501-06-51	0"-6"	5/1/2018	FS		0.03 U		4.16	4.38	15.9	53.9	881		0.21 JQ	0.26 JQ	0.36 JQ	0.06 JQ	0.25 JQ
DRA18	DRA18-20180501-12-51	6"-12"	5/1/2018	FS		0.15 JQK		3.73	4.86	13.8	47.3	882		0.19 JQ	0.24 JQ	0.27 JQ	0.05 JQ	0.21 JQ
DRA19	DRA19-20180501-01-51	0"-1"	5/1/2018	FS		0.12 JQH		4.28	3.36	18.4	50.9	633		0.13 JQ	0.16 JQ	0.24 JQ	0.03 JQ	0.14 JQ
DRA19	DRA19-20180501-06-51	0"-6"	5/1/2018	FS		0.09 JQ		6.41	4.29	23.1	66.7	785		0.06 JQ	0.08 JQ	0.1 JQ	0.02 JQ	0.06 JQ
DRA19	DRA19-20180501-06-52	0"-6"	5/1/2018	FD		0.03 U		5.1	4.5	20.8	72.1	916		0.11 JQ	0.13 JQ	0.2 JQ	0.03 JQ	0.11 JQ
DRA19	DRA19-20180501-12-51	6"-12"	5/1/2018	FS		0.03 U		6.67	3.94	18.7	50.6	772		0.06 JQ	0.07 JQ	0.1 JQ	0.02 U	0.06 JQ
DRA20	DRA20-20180501-01-51	0"-1"	5/1/2018	FS		0.03 U		6.24	3.64	17.7	47.9	657		0.06 JQ	0.07 JQ	0.1 JQ	0.02 U	0.05 JQ
DRA20	DRA20-20180501-06-51	0"-6"	5/1/2018	FS		0.03 U		10.8	3.92	11.6	44.8	766		0.04 JQ	0.01 U	0.01 U	0.02 U	0.01 U
DRA20	DRA20-20180501-12-51	6"-12"	5/1/2018	FS		0.03 U		10.6	5.95	7.86	33.9	965		0.00901 U	0.01 U	0.01 U	0.02 U	0.01 U
EAS01	EAS01-20180501-01-51	0"-1"	5/1/2018	FS		0.00619 U		12.7	5.34	10.4	30.9	962		0.02 JQ	0.01 U	0.01 U	0.02 U	0.01 U
EAS01	EAS01-20180501-06-51	0"-6"	5/1/2018	FS		0.00675 U		16.9	5.53	9.89	27.4	1070		0.00886 U	0.01 U	0.01 U	0.02 U	0.01 U
EAS01	EAS01-20180501-12-51	6"-12"	5/1/2018	FS		0.00669 U		12.6	5.67	7.31	17.6	1090		0.00877 U	0.01 U	0.01 U	0.02 U	0.01 U
EAS02	EAS02-20180501-01-51	0"-1"	5/1/2018	FS		0.03 U		8.66	5.25	20.9	44.2	1080		0.00937 U	0.01 U	0.01 U	0.02 U	0.01 U
EAS02	EAS02-20180501-06-51	0"-6"	5/1/2018	FS		0.00678 U		7.4	5.29	12.6	27.4	1150		0.00883 UJK	0.01 U	0.01 U	0.02 U	0.01 U
EAS02	EAS02-20180501-12-51	6"-12"	5/1/2018	FS		0.00678 U		7.22	5.2	12.2	26.9	1020		0.02 JQ	0.01 U	0.05 JQ	0.02 U	0.01 U
EAS03	EAS03-20180501-01-51	0"-1"	5/1/2018	FS		1.32 JK		4.3	4.88	1400	75.4	1000		0.08 JQ	0.01 U	0.01 U	0.02 U	0.01 U
EAS03	EAS03-20180501-06-51	0"-6"	5/1/2018	FS		2.18		8.8	8.8	225	108	1440		0.02 JQ	0.01 U	0.01 U	0.02 U	0.01 U
EAS03	EAS03-20180501-12-51	6"-12"	5/1/2018	FS		0.22		6.52	7.04	29.7	42.8	1560		0.02 JQ	0.01 U	0.01 U	0.02 U	0.01 U
EAS04	EAS04-20180501-01-51	0"-1"	5/1/2018	FS		4.22		4.91	6.68	2310	240	1240		0.04 JQ	0.01 U	0.07 JQ	0.02 U	0.01 U
EAS04	EAS04-20180501-06-51	0"-6"	5/1/2018	FS		1.97		5.34	7.18	438	78.4	1440		0.00895 U	0.01 U	0.01 U	0.02 U	0.01 U
EAS04	EAS04-20180501-12-51	6"-12"	5/1/2018	FS		0.64 JH		7.7	11.5	243	35.7	2180		0.00864 U	0.01 U	0.01 U	0.02 U	0.01 U
EAS05	EAS05-20180502-01-51	0"-1"	5/2/2018	FS		3.67 JK		7.29	7.3	275	47.1	1120		0.07 JQL	0.11 JQL	0.21 JQL	0.02 UJL	0.13 JQL



# Assessment Table Soil Analytical Data Assessment Sample Results - LeonardISD - FJD05 Leonard, Fannin County, Texas

Site Specific Cleanup Levels		Analyte CAS,NO				Aroclors	Total PCBs GCSV-07-1	Metals	Arsenic 7440-38-2	Cobalt 7440-48-4	Copper 7440-50-8	7439-92-1	Manganese 9-96-5	SVOCs	မenzo(a)anthracene 5- 5- 5-	Benzo(a)pyrene	Benzo(b)fluoranthene	Dibenz(a,h)anthracene	Indeno(1,2,3-cd)pyrene
Station   Sample ID   Depth   Date   Type   Color		Units					mg/kg		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EASOS EASOS-20180502-06-51 0"-6" \$/2/2018 FS 15.2 6.73 7.3 527 31.9 1300 9.8 13.3 16.5 2.97 JQ 15.2 EASOS EASOS-20180502-12-51 6"-12" \$/2/2018 FS 2.22 6.15 12.3 46.2 12.5 1970 0.03 JQ 0.04 JQ 0.07 JQ 0.02 U 0.07 JQ FJDOS-01 FJDOS-01 FJDOS-01-20180430-01-51 0"-1" 4/30/2018 FS 0.0642 U 29 5.09 8.12 JK 30.4 JK 1300 0.02 JQ 0.06 JQ 0.08 JQ 0.02 U 0.07 JQ FJDOS-01 FJDOS-01 FJDOS-01-20180430-12-51 6"-12" 4/30/2018 FS 0.06652 U 21.2 3.3 5.97 16.4 902 0.0854 U 0.01 U 0.01 U 0.02 U 0.01 U FJDOS-02 FJDOS-02-20180430-01-51 0"-1" 4/30/2018 FS 0.06657 U 19.7 5.5 11.7 JK 43.5 JK 1200 0.02 JQ 0.04 JQ 0.05 JQ 0.02 U 0.05 JQ FJDOS-02-20180430-01-51 0"-1" 4/30/2018 FS 0.00665 U 19.7 5.5 11.7 JK 43.5 JK 1200 0.02 JQ 0.04 JQ 0.02 U 0.01 U FJDOS-02 FJDOS-02-20180430-01-51 0"-1" 4/30/2018 FS 0.00665 U 19.7 5.5 11.7 JK 43.5 JK 1200 0.0084 U 0.01 U 0.02 U 0.01 U FJDOS-02 FJDOS-02-20180430-01-51 0"-1" 4/30/2018 FS 0.00665 U 20.2 5.68 9.68 20.9 1140 0.0084 U 0.01 U 0.01 U 0.02 U 0.01 U FJDOS-05 FJDOS-02-20180430-01-51 0"-1" 4/30/2018 FS 0.00665 U 20.2 5.68 9.68 20.9 1140 0.0084 U 0.01 U 0.01 U 0.02 U 0.01 U FJDOS-05 FJDOS-02-20180430-01-51 0"-1" 4/30/2018 FS 0.00665 U 20.2 5.68 9.68 20.9 1140 0.0084 U 0.01 U 0.01 U 0.02 U 0.01 U FJDOS-05 FJDOS-02-20180430-01-51 0"-1" 4/30/2018 FS 0.00665 U 8.53 5.31 8.37 JK 71.7 JK 1070 0.00791 U 0.1 U 0.01 U 0.02 U 0.01 U FJDOS-06 FJDOS-02-20180430-01-51 0"-1" 4/30/2018 FS 0.00665 U 9.83 4.87 17.1 JK 90.8 728 0.05 JQ 0.01 U 0							1		20	23	3100	400	1800		11	1.1	11	1.1	11
EAS05 EAS05-20180502-12-51 6"-12" 5/2/2018 FS 2.22 6.15 12.3 46.2 21.5 1970 0.03 JQ 0.04 JQ 0.07 JQ 0.02 U 0.07 JQ FJD05-01 FJD05-01 FJD05-01-20180430-01-51 0"-1" 4/30/2018 FS 0.42 10.3 3.9 11.6 95.5 885 0.05 JQ 0.06 JQ 0.08 JQ 0.02 U 0.05 JQ FJD05-01 FJD05-01-20180430-06-51 0"-6" 4/30/2018 FS 0.00642 U 29 5.09 8.12 JK 30.4 JK 1300 0.02 JQ 0.01 U 0.01 U 0.01 U 0.02 U 0.01 U FJD05-01 FJD05-01-20180430-12-51 6"-12" 4/30/2018 FS 0.00655 U 21.2 3.3 5.37 16.4 902 0.00854 U 0.01 U 0.01 U 0.02 U 0.01 U FJD05-02 FJD05-02-20180430-01-51 0"-1" 4/30/2018 FS 0.00655 U 12.1 3.9 20.9 JK 46.3 964 JK 0.03 JQ 0.1 JQ 0.06 JQ 0.04 JQ 0.02 U 0.03 JQ FJD05-02 FJD05-02-20180430-01-51 0"-6" 4/30/2018 FS 0.00657 U 19.7 5.5 11.7 JK 43.5 JK 1200 0.02 JQ 0.02 JQ 0.04 JQ 0.02 U 0.01 U 0.01 U 0.02	Station	Sample ID	Depth		Type														
FJDD5-01   FJDD5-01-20180430-01-51   0"-1"   4/30/2018   FS   0.42   10.3   3.9   11.6   95.5   885   0.05 JQ   0.06 JQ   0.08 JQ   0.02 U   0.05 JQ   0.01 U   0.02 U   0.05 JQ   0.01 U   0.01 U   0.02 U   0.01 U   0.	EAS05	EAS05-20180502-06-51	0"-6"						6.73	7.3	527	31.9	1300		9.8	13.3	16.5	2.97 JQ	15.2
FJD05-01 FJD05-01-20180430-06-51 0"-6" 4/30/2018 FS 0.00642 U 29 5.09 8.12 JK 30.4 JK 1300 0.02 JQ 0.01 U 0.01 U 0.02 U 0.01 U FJD05-01 FJD05-01-20180430-12-51 6"-12" 4/30/2018 FS 0.00655 U 21.2 3.3 5.37 16.4 902 0.00854 U 0.01 U 0.01 U 0.02 U 0.01 U FJD05-02 FJD05-02-20180430-01-51 0"-1" 4/30/2018 FS 0.00599 U 12.1 3.9 20.9 JK 46.3 964 JK 0.03 JQ 0.1 JQ 0.06 JQ 0.02 JQ 0.02 JQ 0.02 JQ 0.03 JQ FJD05-02 FJD05-02-20180430-06-51 0"-6" 4/30/2018 FS 0.00657 U 19.7 5.5 11.7 JK 43.5 JK 1200 0.02 JQ 0.02 JQ 0.04 JQ 0.02 U 0.01 U FJD05-02 FJD05-02-20180430-01-51 0"-1" 4/30/2018 FS 0.00646 U 20.2 5.68 9.68 20.9 1140 0.00841 U 0.01 U 0.01 U 0.02 U 0.01 U FJD05-05 FJD05-05-20180430-01-51 0"-1" 4/30/2018 FS 0.00646 U 20.2 5.68 9.68 20.9 1140 0.00841 U 0.01 U 0.01 U 0.02 U 0.01 U FJD05-05 FJD05-05-20180430-01-51 0"-1" 4/30/2018 FS 0.00615 U 8.53 5.31 8.37 JK 71.7 JK 1070 0.00791 U 0.01 U 0.01 U 0.02 U 0.01 U FJD05-05 FJD05-05-20180430-01-51 0"-1" 4/30/2018 FS 0.00632 U 4.45 3.27 4.61 JK 51.1 JK 1010 0.04 JQ 0.04 JQ 0.05 JQ 0.02 JQ 0.02 JQ FJD05-06 FJD05-06-20180430-01-51 0"-1" 4/30/2018 FS 0.00576 U 9.83 4.87 17.1 JK 90.8 728 0.05 JQ 0.01 U 0.01	EAS05	EAS05-20180502-12-51	6"-12"	5/2/2018	FS		2.22		6.15	12.3	46.2	21.5	1970		0.03 JQ	0.04 JQ	0.07 JQ	0.02 U	0.07 JQ
FIDDS-01 FIDDS-02 FIDDS-02-20180430-01-51 0"-1" 4/30/2018 FS 0.00555 U 21.2 3.3 5.37 16.4 902 0.00854 U 0.01 U 0.01 U 0.02 U 0.01 U FIDDS-02 FIDDS-02-20180430-06-51 0"-6" 4/30/2018 FS 0.00599 U 12.1 3.9 20.9 JK 46.3 964 JK 0.03 JQ 0.1 JQ 0.06 JQ 0.02 U 0.03 JQ FIDDS-02 FIDDS-02-20180430-06-51 0"-6" 4/30/2018 FS 0.00657 U 19.7 5.5 11.7 JK 43.5 JK 1200 0.02 JQ 0.02 JQ 0.02 JQ 0.02 JQ 0.01 U 0.05 JQ FIDDS-05-20180430-01-51 0"-6" 4/30/2018 FS 0.00646 U 20.2 5.68 9.68 20.9 1140 0.00841 U 0.01	FJD05-01		0"-1"	4/30/2018	FS		0.42		10.3	3.9	11.6	95.5	885		0.05 JQ	0.06 JQ	0.08 JQ	0.02 U	0.05 JQ
FJD05-02   FJD05-02-20180430-01-51   O"-1"   4/30/2018   FS   O.00599 U   12.1   3.9   20.9 JK   46.3   964 JK   O.03 JQ   O.1 JQ   O.06 JQ   O.02 U   O.03 JQ   FJD05-02-20180430-06-51   O"-6"   4/30/2018   FS   O.00657 U   19.7   5.5   11.7 JK   43.5 JK   1200   O.02 JQ   O.02 JQ   O.04 JQ   O.02 U   O.01 U   O.01 U   O.01 U   O.01 U   O.01 U   O.02 U   O.01 U   O.05 JQ	FJD05-01	FJD05-01-20180430-06-51	0"-6"	4/30/2018	FS		0.00642 U		29	5.09	8.12 JK	30.4 JK	1300		0.02 JQ	0.01 U	0.01 U	0.02 U	0.01 U
FJD05-02   FJD05-02-20180430-06-51   0"-6"   4/30/2018   FS   0.00657 U   19.7   5.5   11.7 JK   43.5 JK   1200   0.02 JQ   0.02 JQ   0.04 JQ   0.02 U   0.01 U	FJD05-01	FJD05-01-20180430-12-51	6"-12"	4/30/2018	FS		0.00655 U		21.2	3.3	5.37	16.4	902		0.00854 U	0.01 U	0.01 U	0.02 U	0.01 U
FJD05-02         FJD05-02-20180430-12-51         6"-12" 4/30/2018         FS         0.00646 U         20.2         5.68         9.68         20.9         1140         0.00841 U         0.01 U         0.02 U         0.01 U           FJD05-05         FJD05-05-20180430-01-51         0"-1" 4/30/2018         FS         0.02 U         5.55         3.85         9.55         341         745         0.05 JQ         0.1 JQ         0.08 JQ         0.01 U         0.05 JQ           FJD05-05         FJD05-05-20180430-06-51         0"-6" 4/30/2018         FS         0.00615 U         8.53         5.31         8.37 JK         71.7 JK         1070         0.00791 U         0.01 U         0.02 U         0.01 U           FJD05-05         FJD05-05-20180430-01-51         6"-12" 4/30/2018         FS         0.00632 U         4.45         3.27         4.61 JK         51.1 JK         1010         0.04 JQ         0.04 JQ         0.05 JQ         0.02 U         0.02 JQ           FJD05-06         FJD05-06-20180430-01-51         0"-1" 4/30/2018         FS         0.00576 U         9.83         4.87         17.1 JK         90.8         728         0.05 JQ         0.01 U	FJD05-02	FJD05-02-20180430-01-51	0"-1"	4/30/2018	FS		0.00599 U		12.1	3.9	20.9 JK	46.3	964 JK		0.03 JQ	0.1 JQ	0.06 JQ	0.02 U	0.03 JQ
FJD05-05         FJD05-05-20180430-01-51         0"-1"         4/30/2018         FS         0.02 U         5.55         3.85         9.55         341         745         0.05 JQ         0.1 JQ         0.08 JQ         0.01 U         0.05 JQ           FJD05-05         FJD05-05-20180430-06-51         0"-6"         4/30/2018         FS         0.00615 U         8.53         5.31         8.37 JK         71.7 JK         1070         0.00791 U         0.01 U         0.02 U         0.02 U         0.01 U         0.02 U         0.02 U         0.01 U         0.00791 U         0.01 U         0.02 U         0.02 U         0.01 U         0.02 U         0.01 U	FJD05-02	FJD05-02-20180430-06-51	0"-6"	4/30/2018	FS		0.00657 U		19.7	5.5	11.7 JK	43.5 JK	1200		0.02 JQ	0.02 JQ	0.04 JQ	0.02 U	0.01 U
FJD05-05         FJD05-05-20180430-06-51         0"-6"         4/30/2018         FS         0.00615 U         8.53         5.31         8.37 JK         71.7 JK         1070         0.00791 U         0.01 U         0.02 U         0.01 U           FJD05-05         FJD05-05-20180430-12-51         6"-12"         4/30/2018         FS         0.00632 U         4.45         3.27         4.61 JK         51.1 JK         1010         0.04 JQ         0.04 JQ         0.05 JQ         0.02 U         0.02 U         0.02 JQ           FJD05-06         FJD05-06-20180430-01-51         0"-1"         4/30/2018         FS         0.00576 U         9.83         4.87         17.1 JK         90.8         728         0.05 JQ         0.01 U	FJD05-02	FJD05-02-20180430-12-51	6"-12"	4/30/2018	FS		0.00646 U		20.2	5.68	9.68	20.9	1140		0.00841 U	0.01 U	0.01 U	0.02 U	0.01 U
FJD05-05         FJD05-05-20180430-12-51         6"-12"         4/30/2018         FS         0.00632 U         4.45         3.27         4.61 JK         51.1 JK         1010         0.04 JQ         0.04 JQ         0.05 JQ         0.02 U         0.02 JQ           FJD05-06         FJD05-06-20180430-01-51         0"-1"         4/30/2018         FS         0.00576 U         9.83         4.87         17.1 JK         90.8         728         0.05 JQ         0.01 U         0.	FJD05-05	FJD05-05-20180430-01-51	0"-1"	4/30/2018	FS		0.02 U		5.55	3.85	9.55	341	745		0.05 JQ	0.1 JQ	0.08 JQ	0.01 U	0.05 JQ
FJD05-06         FJD05-06-20180430-01-51         0"-1"         4/30/2018         FS         0.00576 U         9.83         4.87         17.1 JK         90.8         728         0.05 JQ         0.01 U	FJD05-05	FJD05-05-20180430-06-51	0"-6"	4/30/2018	FS		0.00615 U		8.53	5.31	8.37 JK	71.7 JK	1070		0.00791 U	0.01 U	0.01 U	0.02 U	0.01 U
FJD05-06         FJD05-06-20180430-01-52         0"-1"         4/30/2018         FD         0.00576 U         6.62         3.37         10.1 JK         63.6         684         0.04 JQ         0.01 U         0.05 JQ         0.01 U         0.03 JQ           FJD05-06         FJD05-06-20180430-06-51         0"-6"         4/30/2018         FS         0.00619 U         18.4         5.63         14.4 JK         84.8 JK         1170         0.05 JQ         0.01 U         0.02 U         0.01 U           FJD05-06         FJD05-06-20180430-12-51         6"-12"         4/30/2018         FS         0.00635 U         9.32         5.54         13.9         77.2         1200         0.00828 U         0.01 U         0.02 U         0.01 U           FJD05-07         FJD05-07-20180430-01-51         0"-1"         4/30/2018         FS         0.00588 U         7.17         4.74         18.1         58.4         1040         0.04 JQ         0.04 JQ         0.06 JQ         0.01 U         0.02 JQ           FJD05-07         FJD05-07-20180430-06-51         0"-6"         4/30/2018         FS         0.00658 U         10.2         6.38         15.8         71.9         1120         0.00847 U         0.01 U         0.01 U         0.02 U         0.01 U <td>FJD05-05</td> <td>FJD05-05-20180430-12-51</td> <td>6"-12"</td> <td>4/30/2018</td> <td>FS</td> <td></td> <td>0.00632 U</td> <td></td> <td>4.45</td> <td>3.27</td> <td>4.61 JK</td> <td>51.1 JK</td> <td>1010</td> <td></td> <td>0.04 JQ</td> <td>0.04 JQ</td> <td>0.05 JQ</td> <td>0.02 U</td> <td>0.02 JQ</td>	FJD05-05	FJD05-05-20180430-12-51	6"-12"	4/30/2018	FS		0.00632 U		4.45	3.27	4.61 JK	51.1 JK	1010		0.04 JQ	0.04 JQ	0.05 JQ	0.02 U	0.02 JQ
FJD05-06         FJD05-06-20180430-06-51         0"-6"         4/30/2018         FS         0.00619 U         18.4         5.63         14.4 JK         84.8 JK         1170         0.05 JQ         0.01 U         0.02 U         0.01 U           FJD05-06         FJD05-06-20180430-12-51         6"-12"         4/30/2018         FS         0.00635 U         9.32         5.54         13.9         77.2         1200         0.00828 U         0.01 U         0.02 U         0.01 U           FJD05-07         FJD05-07-20180430-01-51         0"-1"         4/30/2018         FS         0.00588 U         7.17         4.74         18.1         58.4         1040         0.04 JQ         0.04 JQ         0.06 JQ         0.01 U         0.02 JQ           FJD05-07         FJD05-07-20180430-06-51         0"-6"         4/30/2018         FS         0.00658 U         10.2         6.38         15.8         71.9         1120         0.00847 U         0.01 U         0.02 U         0.01 U	FJD05-06	FJD05-06-20180430-01-51	0"-1"	4/30/2018	FS		0.00576 U		9.83	4.87	17.1 JK	90.8	728		0.05 JQ	0.01 U	0.01 U	0.01 U	0.01 U
FJD05-06         FJD05-06-20180430-12-51         6"-12"         4/30/2018         FS         0.00635 U         9.32         5.54         13.9         77.2         1200         0.00828 U         0.01 U         0.01 U         0.02 U         0.01 U           FJD05-07         FJD05-07-20180430-01-51         0"-1"         4/30/2018         FS         0.00588 U         7.17         4.74         18.1         58.4         1040         0.04 JQ         0.04 JQ         0.06 JQ         0.01 U         0.02 JQ           FJD05-07         FJD05-07-20180430-06-51         0"-6"         4/30/2018         FS         0.00658 U         10.2         6.38         15.8         71.9         1120         0.00847 U         0.01 U         0.02 U         0.01 U	FJD05-06	FJD05-06-20180430-01-52	0"-1"	4/30/2018	FD		0.00576 U		6.62	3.37	10.1 JK	63.6	684		0.04 JQ	0.01 U	0.05 JQ	0.01 U	0.03 JQ
FJD05-07         FJD05-07-20180430-01-51         0"-1"         4/30/2018         FS         0.00588 U         7.17         4.74         18.1         58.4         1040         0.04 JQ         0.04 JQ         0.06 JQ         0.01 U         0.02 JQ           FJD05-07         FJD05-07-20180430-06-51         0"-6"         4/30/2018         FS         0.00658 U         10.2         6.38         15.8         71.9         1120         0.00847 U         0.01 U         0.02 U         0.01 U	FJD05-06	FJD05-06-20180430-06-51	0"-6"	4/30/2018	FS		0.00619 U		18.4	5.63	14.4 JK	84.8 JK	1170		0.05 JQ	0.01 U	0.01 U	0.02 U	0.01 U
FJD05-07 FJD05-07-20180430-06-51 0"-6" 4/30/2018 FS 0.00658 U 10.2 6.38 15.8 71.9 1120 0.00847 U 0.01 U 0.01 U 0.02 U 0.01 U	FJD05-06	FJD05-06-20180430-12-51	6"-12"	4/30/2018	FS		0.00635 U		9.32	5.54	13.9	77.2	1200		0.00828 U	0.01 U	0.01 U	0.02 U	0.01 U
	FJD05-07	FJD05-07-20180430-01-51	0"-1"	4/30/2018	FS		0.00588 U		7.17	4.74	18.1	58.4	1040		0.04 JQ	0.04 JQ	0.06 JQ	0.01 U	0.02 JQ
FJD05-07 FJD05-07-20180430-12-51 6"-12" 4/30/2018 FS 0.00658 U 14.1 6.37 56.6 72.3 1210 0.00852 U 0.01 U 0.01 U 0.02 U 0.01 U	FJD05-07	FJD05-07-20180430-06-51	0"-6"	4/30/2018	FS		0.00658 U		10.2	6.38	15.8	71.9	1120		0.00847 U	0.01 U	0.01 U	0.02 U	0.01 U
	FJD05-07	FJD05-07-20180430-12-51	6"-12"	4/30/2018	FS		0.00658 U		14.1	6.37	56.6	72.3	1210		0.00852 U	0.01 U	0.01 U	0.02 U	0.01 U
FJD05-08 FJD05-08-20180430-01-51 0"-1" 4/30/2018 FS 0.00592 U 8.7 14.5 27.2 56 1780 0.02 JQ 0.03 JQ 0.01 U 0.01 U 0.01 JQ	FJD05-08	FJD05-08-20180430-01-51	0"-1"	4/30/2018	FS		0.00592 U		8.7	14.5	27.2	56	1780		0.02 JQ	0.03 JQ	0.01 U	0.01 U	0.01 JQ
FJD05-08 FJD05-08-20180430-06-51 0"-6" 4/30/2018 FS 0.00705 U 6.8 8.15 15.7 JK 41.1 JK 1440 0.04 JQ 0.01 U 0.01 U 0.02 U 0.01 U	FJD05-08	FJD05-08-20180430-06-51					0.00705 U		6.8	8.15	15.7 JK	41.1 JK	1440		0.04 JQ	0.01 U		0.02 U	0.01 U
FJD05-08 FJD05-08-20180430-12-51 6"-12" 4/30/2018 FS 0.00666 U 5.69 12.3 11.5 25 1440 0.00868 U 0.01 U 0.01 U 0.02 U 0.01 U	FJD05-08	FJD05-08-20180430-12-51	6"-12"	4/30/2018	FS		0.00666 U		5.69	12.3	11.5	25	1440			0.01 U	0.01 U	0.02 U	0.01 U
FJD05-09 FJD05-09-20180430-01-51 0"-1" 4/30/2018 FS 0.02 U 12.7 5.47 JK 12.5 JK 235 JK 1020 0.09 JQ 0.13 JQ 0.22 JQ 0.01 U 0.06 JQ	FJD05-09	FJD05-09-20180430-01-51								5.47 JK		235 JK	1020				i		
FJD05-09 FJD05-09-20180430-01-52 0"-1" 4/30/2018 FD 0.00577 U 15.4 9.14 JK 26.9 JK 273 1300 JK 0.22 JQ 0.14 JQ 0.35 0.05 JQ 0.25 JQ	FJD05-09	FJD05-09-20180430-01-52										273	1300 JK		-				
FJD05-09 FJD05-09-20180430-06-51 0"-6" 4/30/2018 FS 0.03 U 6.65 4.96 8.21 JK 134 JK 1170 0.17 JQ 0.2 JQ 0.29 JQ 0.03 JQ 0.09 JQ							0.03 U												
FJD05-09 FJD05-09-20180430-06-52 0"-6" 4/30/2018 FD 0.00645 U 7.71 5.7 11.5 JK 109 JK 1200 0.1 JQ 0.12 JQ 0.18 JQ 0.02 U 0.06 JQ			_									-							
FJD05-09 FJD05-09-20180430-12-51 6"-12" 4/30/2018 FS 0.00631 U 14.8 JK 7.05 9.56 169 JK 1130 0.08 U 0.11 U 0.14 U 0.2 U 0.15 U																			
FJD05-09 FJD05-09-20180430-12-52 6"-12" 4/30/2018 FD 0.0065 U <b>5.39 JK 5.79 8.17 JK 41.4 JK 1490 0.07 JQ</b> 0.01 U 0.01 U 0.02 U 0.01 U					_								<u> </u>			-	-		<del></del> 1
FJD05-10 FJD05-10-20180430-01-51 0"-1" 4/30/2018 FS 0.00574 U 9.68 4.93 10.5 JK 94.5 754 JK 0.03 JQ 0.01 U 0.01 U 0.01 U																<b>-</b>			
FJD05-10 FJD05-10-20180430-06-51 0"-6" 4/30/2018 FS 0.12 6.32 6.57 9.84 106 1200 0.05 JQ 0.06 JQ 0.08 JQ 0.02 U 0.02 JQ												-							
FJD05-10 FJD05-10-20180430-12-51 6"-12" 4/30/2018 FS 0.00651 U 4.57 6.16 7.95 82.7 1120 0.00849 U 0.01 U 0.02 U 0.01 U																			
	FJD05-11	FJD05-11-20180430-01-51	_	4/30/2018			0.00579 U		6.76	6.4	10.7	61.9	849		0.04 JQ	0.04 JQ			0.02 JQ



## Assessment Table Soil Analytical Data Assessment Sample Results - LeonardISD - FJD05 Leonard, Fannin County, Texas

Analyte CAS.NO Units						Total PCBs GCSV-07-1 mg/kg	Metals	Arsenic 7440-38-2 mg/kg	Cobalt 7440-48-4 mg/kg	Copper 7440-50-8 mg/kg	7439-92-1 mg/kg	Vanganese 7439-96-5 mg/kg	SVOCs	Benzo(a)anthracene	Benzo(a)pyrene 50-32-8 mg/kg	Benzo(b)fluoranthene	Dibenz(a,h)anthracene	Indeno(1,2,3-cd)pyrene
	Site Specific Cleanup Levels					1		20	23	3100	400	1800		11	1.1	11	1.1	11
Station	Sample ID	Depth	Date	Type														
FJD05-11	FJD05-11-20180430-06-51		4/30/2018	FS		0.00658 U		33	9.02	82.7	369	1240		0.00858 U	0.01 U	0.01 U	0.02 U	0.01 U
FJD05-11	FJD05-11-20180430-12-51	6"-12"	4/30/2018	FS		0.007 U		11.2	9.04	11	49.5	1370		0.00912 U	0.01 U	0.01 U	0.02 U	0.01 U
FJD05-12	FJD05-12-20180430-01-51	0"-1"	4/30/2018	FS		0.00597 U		8.88	10.9 JK	18.9 JK	46.7 JK	1500		0.06 JQ	0.07 JQ	0.11 JQ	0.02 U	0.03 JQ
FJD05-12	FJD05-12-20180430-06-51	0"-6"	4/30/2018	FS		0.00678 U		6.3	18.7	13.9	26.7	1770		0.02 JQ	0.01 U	0.01 U	0.02 U	0.01 U
FJD05-12	FJD05-12-20180430-12-51	6"-12"	4/30/2018	FS		0.00714 U		10	16.9	18.1	45.9	1890		0.02 JQ	0.01 U	0.02 JQ	0.02 U	0.01 U

Notes:

FS - Field Sample

FD - Field Duplicate

NP - Not Published

mg/kg - milligrams per kilogram.

" - Inches

H - High bias

J - The identification of the analyte is acceptable; the reported value is an estimate

K - Unknown bias

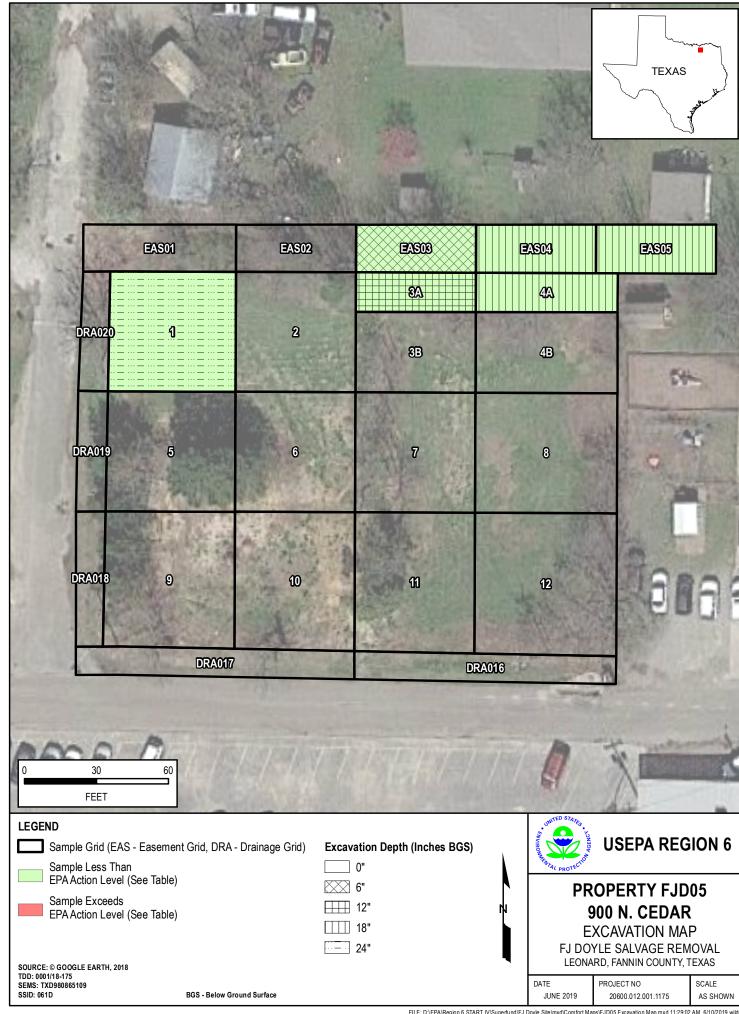
L - Low bias

Q - Detected below the quantitation limit

U - Analyte not detected

**Bold** - Value exceeds the detection limit for specific sample analyte





## Removal Table Soil Analytical Data Confirmation Sample Results - LeonardISD - FJD05 Leonard, Fannin County, Texas

	Analyte				Aroclors	Total PCBs	Metals	Arsenic	Cobalt	Copper	Lead	Manganese	SVOCs	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Dibenz(a,h)anthracene	Indeno(1,2,3-cd)pyrene
	CAS.NO					GCSV-07-1		7440-38-2	7440-48-4	7440-50-8	7439-92-1	7439-96-5		56-55-3	50-32-8	205-99-2	53-70-3	193-39-5
	Units					mg/kg		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
	Site Specific Cleanup Levels					1		20	23	3100	400	1800		11	1.1	11	1.1	11
Station	Sample ID	Depth	Date	Type					-	1	-	1		1	1	1		
EAS03	EAS03-20181115-06-56	6"-6"	11/15/2018	FS		0.047		8.62	7.45	68.7	64.2	1290		0.0055	0.0055	0.0088	0.0077	0.0085
EAS04	EAS04-20181130-18-56	18"-18"	11/30/2018	FS		0.079		7.52	7.3 JL	19.3	10.9 JL	1190		0.0031 JQ	0.002 JQ	0.0033 JQ	0.0016 U	0.0019 JQ
EAS05	EAS05-20181203-18-56	18"-18"	12/3/2018	FS		0.051		5.89	7.07 JL	16.8	12.9	1080		0.0048	0.0033 JQ	0.0058	0.0016 U	0.0018 JQ
FJD05-01	FJD05-01-20190118-24-56	24"-24"	1/18/2019	FS		0 U		15.6	5.26	7.59	7.19	986		0.0016 U	0.001 U	0.0012 U	0.0016 U	0.0008 U
FJD05-03A	FJD05-03A-20181130-12-56	12"-12"	11/30/2018	FS		0 U		11.1	5.93 JL	12.2	35.5 JL	1100		0.0027 JQ	0.0026 JQ	0.0045	0.0016 U	0.0021 JQ
FJD05-04A	FJD05-04A-20181130-18-56	18"-18"	11/30/2018	FS		0 U		9.62	7.16 JL	18.8	17.8 JL	1080		0.0016 U	0.0014 JQ	0.0026 JQ	0.0016 U	0.0021 JQ

Notes:

FS - Field Sample

FD - Field Duplicate

NP - Not Published

mg/kg - milligrams perkilogram.

" - Inches

H - High bias

J - The identification of the analyte is acceptable; the reported value is an estimate

K - Unknown bias

L - Low bias

Q - Detected below the quantitation limit

U - Analyte not detected

**Bold** - Value exceeds the detection limit for specific sample analyte



### UNITED STATES ENVIRONMENTAL PROTECTION AGENCY



REGION 6 1201 ELM STREET, SUITE 500 DALLAS, TEXAS 75270-2102

19 June 2019

Brad Maxell, Leonard ISD Superintendent 1 Tiger Alley Leonard, Texas 75452

RE: F.J. Doyle Salvage, Property Identification # FJD06 Soil Removal Action at 905 N. Poplar St.

Dear Brad Maxwell: Regarding Leonard ISD property located at 308 E. Hackberry St. Leonard, TX 75452. Property legal description: S9030 COLLEGE ADDN, BLOCK 14, LOT 13

The purpose of this letter is to provide Leonard Independent School District (ISD) with documentation confirming that the United States Environmental Protection Agency (EPA) recently completed the removal of soil contaminated by polychlorinated biphenyls (PCBs), semivolatile organic compounds (SVOCs), and metals on Leonard ISD property and surrounding properties; and, remediation consisted of removal of soil from various locations on Leonard ISD property. The remediation activities were conducted based on previous sampling results reviewed by the EPA, the Texas Commission on Environmental Quality (TCEQ), and the Agency for Toxic Substances and Disease Registry (ATSDR). The removal assessment activities in the area were conducted between 26 April 2018 and 05 October 2018. The removal action activities in the area were conducted between 05 November 2018 and 19 February 2019. The maximum excavation depth (variable due to the depth of bedrock) on Leonard ISD property at 308 E. Hackberry St. was up to 12 inches below the ground surface. Leonard ISD properties were then backfilled with clean soil and sodded, seeded, backfilled with limestone rock, or some combination of those. See the attached analytical summary table and map for sampling results for Leonard ISD property and surrounding City of Leonard right-of-way properties.

Please save this document, if Leonard ISD sells, transfers, or refinances a property Leonard ISD will have documentation of the PCB, SVOCs, and metal contamination and the EPA removal action conducted on city properties.

The EPA thanks Leonard ISD for patience and understanding as we know that cleanup activities of this nature are disruptive to the community. If there are any questions concerning the work conducted on city property, please contact me at 214-665-6609.

Sincerely,

Gary Moore

Federal On-Scene Coordinator

U.S. EPA Region 6 - Superfund Division

## Attachments:

Assessment Map Assessment Table Excavation Map Removal Table

State of Texas

County of COLLIN

Before me, Ann Gandhi on this day personally appeared Gard Move known to me (or proved to me on the oath of AFRICATION or through (description of identity card or other document) to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he executed the same for the purposes and consideration therein expressed.

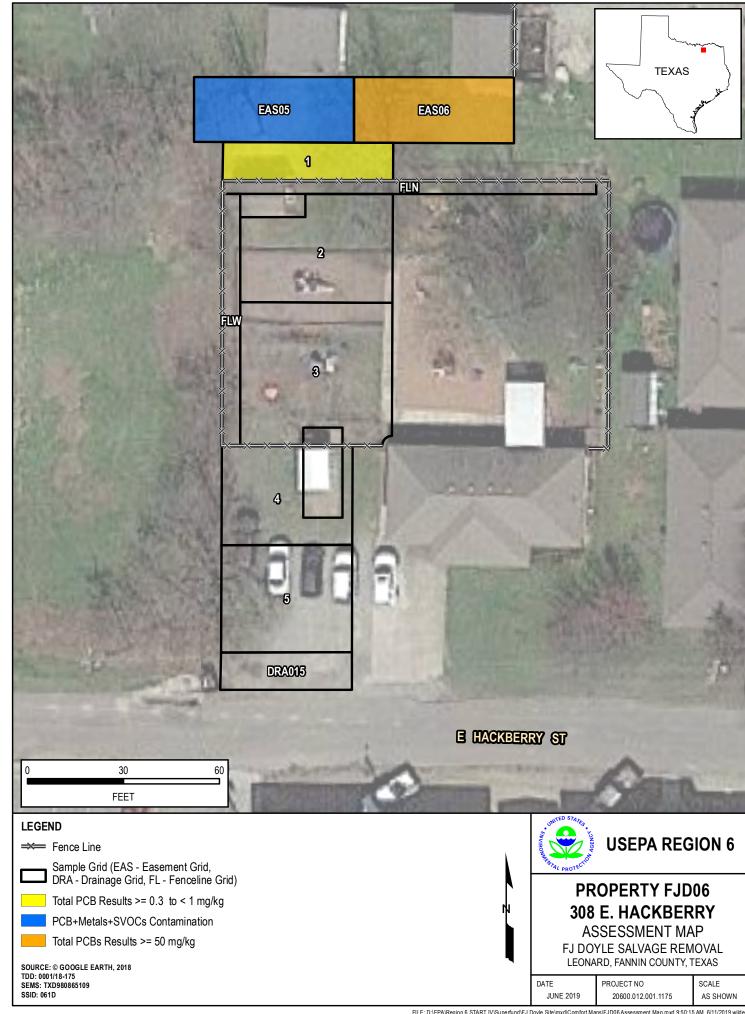
Given under my hand and seal of office this 19th day of June, (year). 2019

THE OF THE

ANVI GANDHI Notary Public STATE OF TEXAS My Comm. Exp. 04-18-23 Notary ID # 13198105-1

(Personalized Seal)

Notar Public's Signature



## Assessment Table Soil Analytical Data Assessment Sample Results - LeonardISD - FJD06 Leonard, Fannin County, Texas

	Analyte CAS.NO				Aroclors	Total PCBs GCSV-07-1	Metals	Arsenic	Cobalt 7440-48-4	Copper 7440-50-8	F	Manganese 9	SVOCs	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Dibenz(a,h)anthracene	Indeno(1,2,3-cd)pyrene
	Units					mg/kg		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
	Site Specific Cleanup Levels					1		20	23	3100	400	1800		11	1.1	11	1.1	11
Station	Sample ID	Depth	Date	Type														
DRA15	DRA15-20180502-06-51	_	5/2/2018	FS		0.00654 U		6.84	16.5	17.1	63.1	1220		0.02 JQ	0.02 JQ	0.01 JQ	0.02 U	0.02 JQ
DRA15	DRA15-20180502-12-51		5/2/2018	FS		0.00703 U		5.34	14.2	12.7	36.3	1400		0.05 JQ	0.04 JQ		<del>                                     </del>	0.04 JQ
EAS05	EAS05-20180502-01-51		5/2/2018	FS		3.67 JK		7.29	7.3	275	47.1	1120		0.07 JQL		0.21 JQL	<del>                                     </del>	0.13 JQL
EAS05	EAS05-20180502-06-51		5/2/2018	FS		15.2		6.73	7.3	527	31.9	1300		9.8	13.3	16.5	2.97 JQ	15.2
EAS05	EAS05-20180502-12-51		5/2/2018	FS		2.22		6.15	12.3	46.2	21.5	1970		0.03 JQ	0.04 JQ	0.07 JQ	0.02 U	0.07 JQ
EAS06	EAS06-20180502-01-51		5/2/2018	FS		64.2		5.12	4.28	277	26.4	602 JK		0.09 JQ	0.16 JQ	0.33 JQ		+ -
EAS06	EAS06-20180502-06-51		5/2/2018	FS		30.3		7.92	7.73	736	30.4	913 JK		0.02 JQ	0.03 JQ		0.02 U	0.03 JQ
EAS06	EAS06-20180502-24-51	12"-24"	5/2/2018	FS		0.25		4.77	14.9	26	19.7	2040		0.00874 U	0.01 U	0.01 U	0.02 U	0.01 U
EAS06	EAS06-20180502-12-51	6"-12"	5/2/2018	FS		4.9		10.5	13.8	2040	40.7	1910 JK		0.00869 U	0.01 U	0.01 U	0.02 U	0.01 U
FJD06-01	FJD06-01-20180502-01-51	0"-1"	5/2/2018	FS		0.72 JK		7.13	11.8	215	88.3	1690		0.04 JQ	0.04 JQ	0.07 JQ	0.02 U	0.04 JQ
FJD06-01	FJD06-01-20180502-06-51	0"-6"	5/2/2018	FS		0.13		6.5	12.5	87.6	94	1750 JK		0.02 JQ	0.01 U	0.01 U	0.02 U	0.01 U
FJD06-01	FJD06-01-20180502-24-51	12"-24"	5/2/2018	FS		0.12		2.64	5.4	13.3	14.2	1130 JK		0.00837 U	0.01 U	0.01 U	0.02 U	0.01 U
FJD06-01	FJD06-01-20180502-12-51	6"-12"	5/2/2018	FS		0.01 JQK		5.78	13	20.6	34.2	1740 JK		0.0094 U	0.01 U	0.01 U	0.02 U	0.01 U
FJD06-02	FJD06-02-20180430-01-51	0"-1"	4/30/2018	FS		0.11 JK		5.45	11.7	51.6 JK	50.2	1760 JK		0.02 JQ	0.01 JQ	0.03 JQ	0.02 U	0.01 JQ
FJD06-02	FJD06-02-20180430-06-51	0"-6"	4/30/2018	FS		0.00706 U		5.69	14.7	11	19.4	1960		0.00926 U	0.01 U	0.01 U	0.02 U	0.01 U
FJD06-02	FJD06-02-20180430-12-51	6"-12"	4/30/2018	FS		0.0071 U		4.55	18.4	14.7 JK	23.7	2140 JK		0.00926 U	0.01 U	0.01 U	0.02 U	0.01 U
FJD06-03	FJD06-03-20180430-01-51	0"-1"	4/30/2018	FS		0.00607 U		5.08	8.64	21	56.6	870		0.01 JQ	0.01 U	0.02 JQ	0.02 U	0.02 JQ
FJD06-03	FJD06-03-20180430-06-51	0"-6"	4/30/2018	FS		0.007 U		7.51	17.4	40	727 JK	1760		0.00918 U	0.01 U	0.01 U	0.02 U	0.01 U
FJD06-03	FJD06-03-20180430-06-52	0"-6"	4/30/2018	FD		0.08 JK		6.16	14.3	36.1	53.9 JK	1720		0.00906 U	0.01 U	0.01 U	0.02 U	0.01 U
FJD06-03	FJD06-03-20180430-12-51	6"-12"	4/30/2018	FS		0.00699 U		6.08	14.2	14.7	51.3	1680		0.0093 U	0.01 U	0.01 U	0.02 U	0.01 U
FJD06-04	FJD06-04-20180430-01-51	0"-1"	4/30/2018	FS		0.08 JK		8.73	14.8	42.1	198	1310		0.08 U	0.11 U	0.14 U	0.2 U	0.15 U
FJD06-04	FJD06-04-20180430-06-51		4/30/2018	FS		0.00699 U		7.01	14.1	19.3 JK	65.4 JK	1450		0.00911 U	0.01 U	0.01 U	0.02 U	0.01 U
FJD06-04	FJD06-04-20180430-12-51		4/30/2018	FS		0.00707 U		6.42	12.8	25.6	80.5	1080		0.00927 U	0.01 U	0.01 U	0.02 U	0.01 U
FJD06-05	FJD06-05-20180430-01-51		4/30/2018	FS		0.0064 U		7.25	13	29.1	58.7	1150		0.02 JQ	0.01 U	0.01 U	0.02 U	0.01 U
FJD06-05	FJD06-05-20180430-06-51		4/30/2018	FS		0.00592 U		5.79	11.8	20.4 JK	282 JK	907		0.00761 U	0.01 U	0.01 U	0.01 U	0.01 U
FJD06-05	FJD06-05-20180430-12-51	6"-12"	4/30/2018	FS		0.00688 U		4.93	18	13.5	56	1750		0.00891 U	0.01 U	0.01 U	0.02 U	0.01 U

Notes:

FS - Field Sample " - Inches
FD - Field Duplicate H - High bi

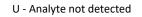
NP - Not Published J - The identification of the analyte is acceptable; the reported value is an estimate

mg/kg - milligrams per kilogram. K - Unknown bias

L - Low bias

**Bold** - Value exceeds the detection limit for specific sample analyte

Highlighted value exceeds the Cleanup level for the specific sample analyte



Q - Detected below the quantitation limit



**USEPA REGION 6** 



## Removal Table Soil Analytical Data Confirmation Sample Results - LeonardISD - FJD06 Leonard, Fannin County, Texas

Analyte					Aroclors	Total PCBs	Metals	Arsenic	Cobalt	Copper	Lead	Manganese	SVOCs	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Dibenz(a,h)anthracene	Indeno(1,2,3-cd)pyrene
	CAS.NO					GCSV-07-1		7440-38-2	7440-48-4	7440-50-8	7439-92-1	7439-96-5		56-55-3	50-32-8	205-99-2	53-70-3	193-39-5
	Units					mg/kg		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
	Site Specific Cleanup Levels					1		20	23	3100	400	1800		11	1.1	11	1.1	11
Station	Sample ID	Depth	Date	Type						-						-		
EAS05	EAS05-20181203-18-56	18"-18"	12/3/2018	FS		0.051		5.89	7.07 JL	16.8	12.9	1080		0.0048	0.0033 JQ	0.0058	0.0016 U	0.0018 JQ
EAS06	EAS06-20181217-24-56	24"-24"	12/17/2018	FS		0.0089		4.84	7.03	11.3	13.2 JH	434 JK		0.0016 U	0.001 U	0.0019 JQK	0.0016 U	0.0008 U
EAS06	EAS06-20181217-24-57	24"-24"	12/17/2018	FD		0.045		4.61	7.39	12.9	12.7 JH	1510 JK		0.011	0.0057	0.017 JK	0.0022 JQ	0.0066
FJD06-01	FJD06-01-20181120-12-56	12"-12"	11/20/2018	FS		0 U		5.7	12.3	28.4	34.1	1710		0.0016 U	0.001 U	0.0017 JQ	0.0016 U	0.0013 JQ

Notes:

FS - Field Sample

FD - Field Duplicate

NP - Not Published

mg/kg - milligrams perkilogram.

" - Inches

H - High bias

J - The identification of the analyte is acceptable; the reported value is an estimate

K - Unknown bias

L - Low bias

Q - Detected below the quantitation limit

U - Analyte not detected

**Bold** - Value exceeds the detection limit for specific sample analyte



## UNITED STATES ENVIRONMENTAL PROTECTION AGENCY



REGION 6 1201 ELM STREET, SUITE 500 DALLAS, TEXAS 75270-2102

19 June 2019

Brad Maxell, Leonard ISD Superintendent 1 Tiger Alley Leonard, Texas 75452

RE: F.J. Doyle Salvage, Property Identification # FJD07 Soil Removal Action at 905 N. Poplar St.

Dear Brad Maxwell: Regarding Leonard ISD property located at 310 E. Hackberry St. Leonard, TX 75452. Property legal description: COLLEGE ADDN, BLOCK 14, LOT 14 & W 20' OF 15

The purpose of this letter is to provide Leonard Independent School District (ISD) with documentation confirming that the United States Environmental Protection Agency (EPA) recently completed the removal of soil contaminated by polychlorinated biphenyls (PCBs), semivolatile organic compounds (SVOCs), and metals on Leonard ISD property and surrounding properties; and, remediation consisted of removal of soil from various locations on Leonard ISD property. The remediation activities were conducted based on previous sampling results reviewed by the EPA, the Texas Commission on Environmental Quality (TCEQ), and the Agency for Toxic Substances and Disease Registry (ATSDR). The removal assessment activities in the area were conducted between 26 April 2018 and 05 October 2018. The removal action activities in the area were conducted between 05 November 2018 and 19 February 2019. The maximum excavation depth (variable due to the depth of bedrock) on Leonard ISD property at 310 E. Hackberry St. was up to 12 inches below the ground surface. Leonard ISD properties were then backfilled with clean soil and sodded, seeded, backfilled with limestone rock, or some combination of those. See the attached analytical summary table and map for sampling results for Leonard ISD property and surrounding City of Leonard right-of-way properties.

In areas on surrounding properties where contaminated soil remains at final excavation depth an orange geotextile liner was placed as a contamination notification for possible future excavation activities. See the attached analytical summary tables and maps for sampling results for Leonard ISD property and surrounding City of Leonard right-of-way properties, as well as locations of where the orange geotextile liner was applied to surrounding City of Leonard right-of-way properties.

Please save this document, if Leonard ISD sells, transfers, or refinances a property Leonard ISD will have documentation of the PCB, SVOCs, and metal contamination and the EPA removal action conducted on city properties.

The EPA thanks Leonard ISD for patience and understanding as we know that cleanup activities of this nature are disruptive to the community. If there are any questions concerning the work conducted on city property, please contact me at 214-665-6609.

Sincerely,

Gary Moore

Federal On-Scene Coordinator

U.S. EPA Region 6 - Superfund Division

## Attachments:

Assessment Map Assessment Table Excavation Map Removal Table

State of Texas

County of COLLIN

Before me, ANN CANDEL on this day personally appeared PARY Mooke known to me (or proved to me on the oath of APPLEMATION or through (description of identity card or other document) to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he executed the same for the purposes and consideration therein expressed.

Given under my hand and seal of office this 19th day of June, (year). 2019.

Notary Public's Signature

ANVI GANDHI

Notary Public

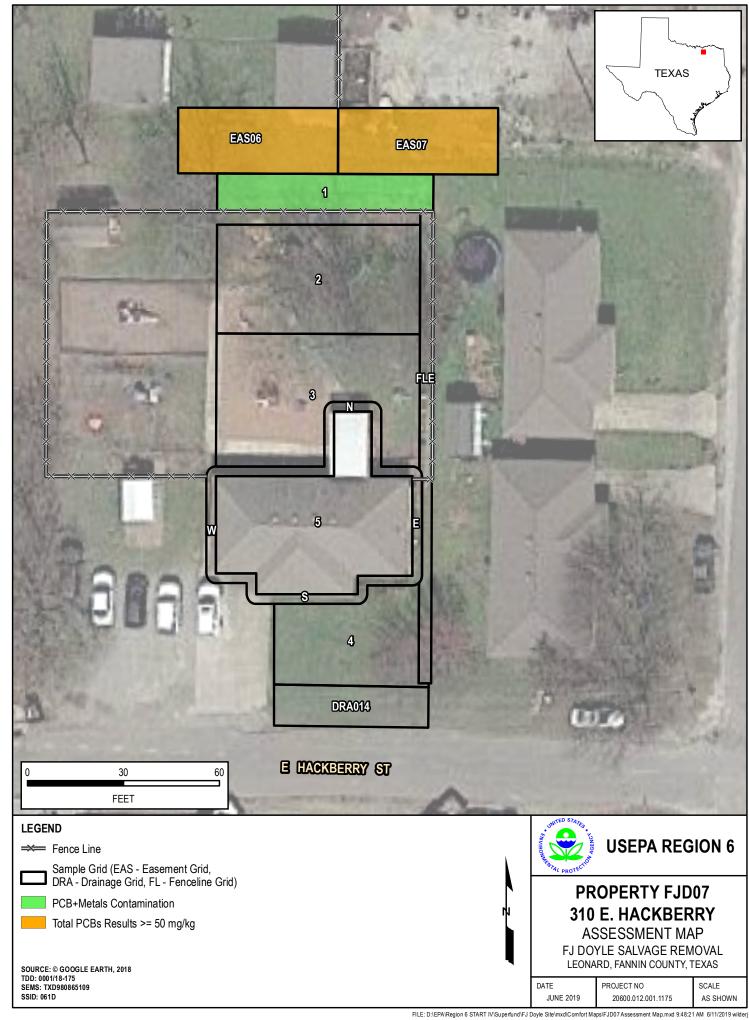
STATE OF TEXAS

My Comm. Exp. 04-18-23

Notary ID # 13198105-1

(Personalized Seal)

Page 2 of 2



# Assessment Table Soil Analytical Data Assessment Sample Results - LeonardISD - FJD07 Leonard, Fannin County, Texas

	Analyte CAS.NO				GCS	SV-07-1	Metals			Copper 7440-50-8		Manganese 7439-96-5	SVOCs	Benzo(a)anthracene		Benzo(b)fluoranthene		Indeno(1,2,3-cd)pyrene
	Units				m	ng/kg		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg		mg/kg	mg/kg	mg/kg	mg/kg	
	Site Specific Cleanup Levels					1		20	23	3100	400	1800		11	1.1	11	1.1	11
Station	Sample ID	Depth		Type														
DRA14	DRA14-20180501-01-51	0"-1"	5/1/2018	FS		.03 U		5.18	13.1	21	46.9	2110		0.04 JQ	0.01 U	0.01 U	0.02 U	0.01 U
DRA14	DRA14-20180501-06-51	0"-6"	5/1/2018	FS		0068 U		6.44	9.99	25	58.1	1190		0.04 JQ	0.06 JQ	0.09 JQ	0.02 U	0.05 JQ
DRA14	DRA14-20180501-12-51	6"-12"	5/1/2018	FS		0681 U		5.36	9.34	14	63	909		0.02 JQ	0.02 JQ	0.01 U	0.02 U	0.02 JQ
EAS06	EAS06-20180502-01-51	0"-1"	5/2/2018	FS		54.2		5.12	4.28	277	26.4	602 JK		0.09 JQ	0.16 JQ	0.33 JQ	0.05 JQ	+
EAS06	EAS06-20180502-06-51	0"-6"	5/2/2018	FS		30.3		7.92	7.73	736	30.4	913 JK		0.02 JQ	0.03 JQ	0.01 U	0.02 U	0.03 JQ
EAS06	EAS06-20180502-24-51	12"-24"	5/2/2018	FS		0.25		4.77	14.9	26	19.7	2040		0.00874 U	0.01 U	0.01 U	0.02 U	0.01 U
EAS06	EAS06-20180502-12-51	6"-12"	5/2/2018	FS		4.9		10.5	13.8	2040	40.7	1910 JK		0.00869 U	0.01 U	0.01 U	0.02 U	0.01 U
EAS07	EAS07-20180503-01-51	0"-1"	5/3/2018	FS	9	95.1		8.69	10.3	1490	63.5	1430 JK		0.00833 U	0.02 JQ	0.01 U	0.02 U	0.02 JQ
EAS07	EAS07-20180503-06-51	0"-6"	5/3/2018	FS	3	32.6		9.93	5.14	884	37.6	692 JK		0.02 JQ	0.04 JQ	0.07 JQ	0.01 U	0.04 JQ
EAS07	EAS07-20180503-24-51	12"-24"	5/3/2018	FS	2	2.42		4.25	19.6	21.3	29.3	2970		0.00861 U	0.01 U	0.01 U	0.02 U	0.01 U
EAS07	EAS07-20180503-24-52	12"-24"	5/3/2018	FD	3	3.94		5.06	16.3	15.6	18.9	2040		0.00865 U	0.01 U	0.01 U	0.02 U	0.01 U
EAS07	EAS07-20180503-36-51	24"-36"	5/3/2018	FS	7	72.6		2.74	3.78	111	14.6	858		0.00902 U	0.01 U	0.01 U	0.02 U	0.01 U
EAS07	EAS07-20180503-12-51	6"-12"	5/3/2018	FS	1.	.33 JL		5.38	15	32.1	40.7	1480		0.00905 U	0.01 U	0.01 U	0.02 U	0.01 U
FJD07-01	FJD07-01-20180502-01-51	0"-1"	5/2/2018	FS	6	5.81		5.77	11.8	313	46.9	1510		0.02 JQ	0.01 U	0.01 U	0.02 U	0.01 U
FJD07-01	FJD07-01-20180502-06-51	0"-6"	5/2/2018	FS	1	<b>1.67</b>		6.08	14.9	165	323	1840		0.07 JQ	0.11 JQ	0.15 JQ	0.02 JQ	0.11 JQ
FJD07-01	FJD07-01-20180502-24-51	12"-24"	5/2/2018	FS	0.	.36 JK		5.37	11.9	11.9	18.1	1480 JK		0.00915 U	0.01 U	0.01 U	0.02 U	0.01 U
FJD07-01	FJD07-01-20180502-12-51	6"-12"	5/2/2018	FS	0	.1 JK		5.83	16.7	30.4	42.1	2060 JK		0.00877 U	0.01 U	0.01 U	0.02 U	0.01 U
FJD07-02	FJD07-02-20180430-01-51	0"-1"	4/30/2018	FS	C	0.07		2.52	5.63	24.6	10.8	498		0.02 JQ	0.01 U	0.01 U	0.02 U	0.01 U
FJD07-02	FJD07-02-20180430-01-52	0"-1"	4/30/2018	FD	C	0.18		3.54	7.74	30.8 JK	15.9 JK	636		0.02 JQ	0.01 U	0.01 U	0.02 U	0.01 U
FJD07-02	FJD07-02-20180430-06-51	0"-6"	4/30/2018	FS	0.	.05 JK		7.04	15.7	70.1	34.4	1310		0.00933 U	0.01 U	0.01 U	0.02 U	0.01 U
FJD07-02	FJD07-02-20180430-06-52	0"-6"	4/30/2018	FD	0.	.22 JK		8.25	17.1	62.9	36.8	1620		0.09 U	0.13 U	0.16 U	0.23 U	0.17 U
FJD07-02	FJD07-02-20180430-12-51	6"-12"	4/30/2018	FS	C	0.09		6.12	15.8	39.1 JK	27 JK	2110		0.00904 U	0.01 U	0.01 U	0.02 U	0.01 U
FJD07-02	FJD07-02-20180430-12-52	6"-12"	4/30/2018	FD	0.	.03 U		6.93	18	15.4 JK	49.3 JK	1610		0.09 U	0.13 U	0.16 U	0.23 U	0.17 U
FJD07-03	FJD07-03-20180430-01-51	0"-1"	4/30/2018	FS	0.	.08 JK		3.7	8.21	23.8 JK	17.2 JK	796		0.03 JQ	0.01 U	0.01 U	0.02 U	0.01 U
FJD07-03	FJD07-03-20180430-06-51	0"-6"	4/30/2018	FS	0.00	0689 U		4.15	9.68	42.5	19.4	947		0.07 JQ	0.05 JQ	0.08 JQ	0.02 U	0.02 JQ
FJD07-03	FJD07-03-20180430-12-51	6"-12"	4/30/2018	FS	0.00	0699 U		4.94	13.2	12.9	32.9	1240		0.00899 U	0.01 U	0.01 U	0.02 U	0.01 U
FJD07-04	FJD07-04-20180430-01-51	0"-1"	4/30/2018	FS	0.00	0669 U		7.72	12.9	33.2	30.7	998		0.00854 U	0.01 U	0.01 U	0.02 U	0.01 U
FJD07-04	FJD07-04-20180430-06-51	0"-6"	4/30/2018	FS	0.00	0707 U		7.36	9.86	18.8	22.3	860		0.00928 U	0.01 U	0.01 U	0.02 U	0.01 U
FJD07-04	FJD07-04-20180430-12-51	6"-12"	4/30/2018	FS	0.00	0698 U		6.47	12	14.4	23.9	895		0.00922 U	0.01 U	0.01 U	0.02 U	0.01 U
FJD07-05NSEW	FJD07-05-DLNSEW-20180502-06-51	0"-6"	5/2/2018	FS	0.	.34 U		NA	NA	NA	NA	NA		NA	NA	NA	NA	NA



### Assessment Table Soil Analytical Data Assessment Sample Results - LeonardISD - FJD07 Leonard, Fannin County, Texas

#### Notes:

- FS Field Sample
- FD Field Duplicate
- NP Not Published

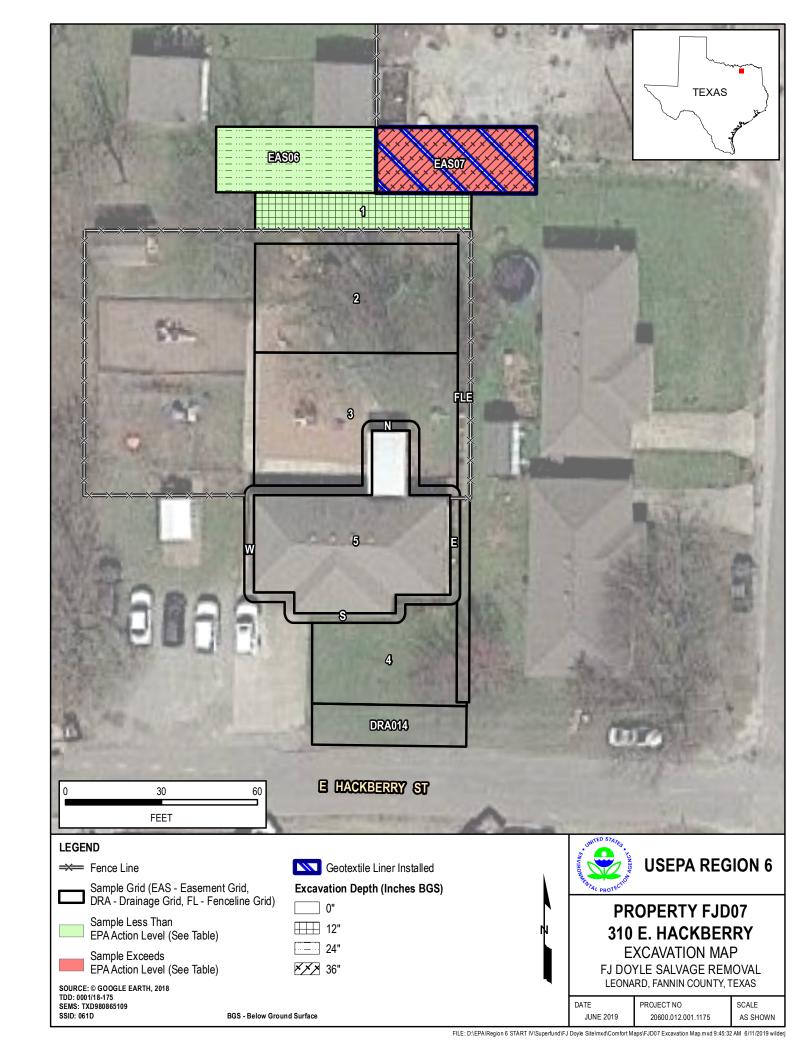
mg/kg - milligrams per kilogram.

- " Inches
- H High bias
- J The identification of the analyte is acceptable; the reported value is an estimate
- K Unknown bias
- L Low bias
- Q Detected below the quantitation limit
- U Analyte not detected

**Bold** - Value exceeds the detection limit for specific sample analyte

Highlighted value exceeds the Cleanup level for the specific sample analyte





### Removal Table Soil Analytical Data Confirmation Sample Results - LeonardISD - FJD07 Leonard, Fannin County, Texas

	Analyte CAS.NO Units				Aroclors	Total PCBs GCSV-07-1 mg/kg	Metals	Arsenic 7440-38-2 mg/kg	Cobalt 7440-48-4 mg/kg	Copper 7440-50-8 mg/kg	7439-92-1 mg/kg	Manganese 7439-96-5 mg/kg	SVOCs	Benzo(a)anthracene 55-3 kg	Benzo(a)pyrene	Benzo(b)fluoranthene	Dibenz(a,h)anthracene 70-3 mg/kg	Indeno(1,2,3-cd)pyrene
	Site Specific Cleanup Levels	 S				1		20	23	3100	400	1800		11	1.1	11	1.1	11
Station	Sample ID	Depth	Date	Туре								1			ı	-		
EAS06	EAS06-20181217-24-56	24"-24"	12/17/2018	FS		0.0089		4.84	7.03	11.3	13.2 JH	434 JK		0.0016 U	0.001 U	0.0019 JQK	0.0016 U	0.0008 U
EAS06	EAS06-20181217-24-57	24"-24"	12/17/2018	FD		0.045		4.61	7.39	12.9	12.7 JH	1510 JK		0.011	0.0057	0.017 JK	0.0022 JQ	0.0066
EAS07	EAS07-20190115-36-56	36"-36"	1/15/2019	FS		4.8		5.09	9.33	24.8	17.7	1140		0.0044	0.0039 JQ	0.0057	0.0016 U	0.0025 JQ
FJD07-01	FJD07-01-20181128-12-56	12"-12"	11/28/2018	FS		0 U		6.96	15.1 JL	26.6	23.8	1590		0.0016 U	0.0014 JQ	0.0023 JQ	0.0016 U	0.0008 U

Notes:

FS - Field Sample

FD - Field Duplicate

NP - Not Published

mg/kg - milligrams perkilogram.

" - Inches

H - High bias

J - The identification of the analyte is acceptable; the reported value is an estimate

K - Unknown bias

L - Low bias

Q - Detected below the quantitation limit

U - Analyte not detected

**Bold** - Value exceeds the detection limit for specific sample analyte

Highlighted value exceeds the Cleanup level for the specific sample analyte



#### UNITED STATES ENVIRONMENTAL PROTECTION AGENCY



REGION 6 1201 ELM STREET, SUITE 500 DALLAS, TEXAS 75270-2102

19 June 2019



RE: F.J. Doyle Salvage, Property Identification # FJD08 Soil Removal Action at 905 N. Poplar St.

Dear (b) (6) Leonard, TX 75452. Property Legal Description: COLLEGE ADDN, (b) (6)

The purpose of this letter is to provide you with documentation confirming that the United States Environmental Protection Agency (EPA) recently completed the removal of soil contaminated by polychlorinated biphenyls (PCBs), semivolatile organic compounds (SVOCs), and metals on your property and surrounding properties; and, remediation consisted of removal of soil from various locations on your property. The remediation activities were conducted based on previous sampling results reviewed by the EPA, the Texas Commission on Environmental Quality (TCEQ), and the Agency for Toxic Substances and Disease Registry (ATSDR). The removal assessment activities in the area were conducted between 26 April 2018 and 05 October 2018. The removal action activities in the area were conducted between 05 November 2018 and 19 February 2019. The maximum excavation depth (variable due to the depth of bedrock) on your property at (b) (6) was up to 24 inches below the ground surface. Your property was then backfilled with clean soil and sodded, seeded, backfilled with limestone rock, or some combination of those.

In areas on your property and surrounding properties where contaminated soil remains at final excavation depth an orange geotextile liner was placed as a contamination notification for possible future excavation activities. Additionally, the EPA allowed the installation of the orange geotextile liner in some areas prior to receiving analytical results when maximum excavation depth was achieved and failure to backfill would delay project completion (in these areas you can disregard the use of the orange geotextile liner warning). See the attached analytical summary table and map for sampling results for your property and surrounding City of Leonard right-of-way properties, as well as locations of where the orange geotextile liner was applied to your property.

Please save this document for your permanent records. If you sell, transfer, or refinance the property you will have documentation of the PCB, SVOCs, and metal contamination and the EPA removal action conducted on your property.

The EPA thanks you for your patience and understanding as we know that cleanup activities of this nature are disruptive to the community. If you have any questions concerning the work conducted on your property, you can contact me at 214-665-6609.

Sincerely,

Gary Moore

Federal On-Scene Coordinator

U.S. EPA Region 6 - Superfund Division

### Attachments:

Assessment Map Assessment Table Excavation Map Removal Table

State of Texas

County of Count

Before me, ANI GANDHI on this day personally appeared CARY MOORE known to me (or proved to me on the oath of AppleMATION or through (description of identity card or other document) to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he executed the same for the purposes and consideration therein expressed.

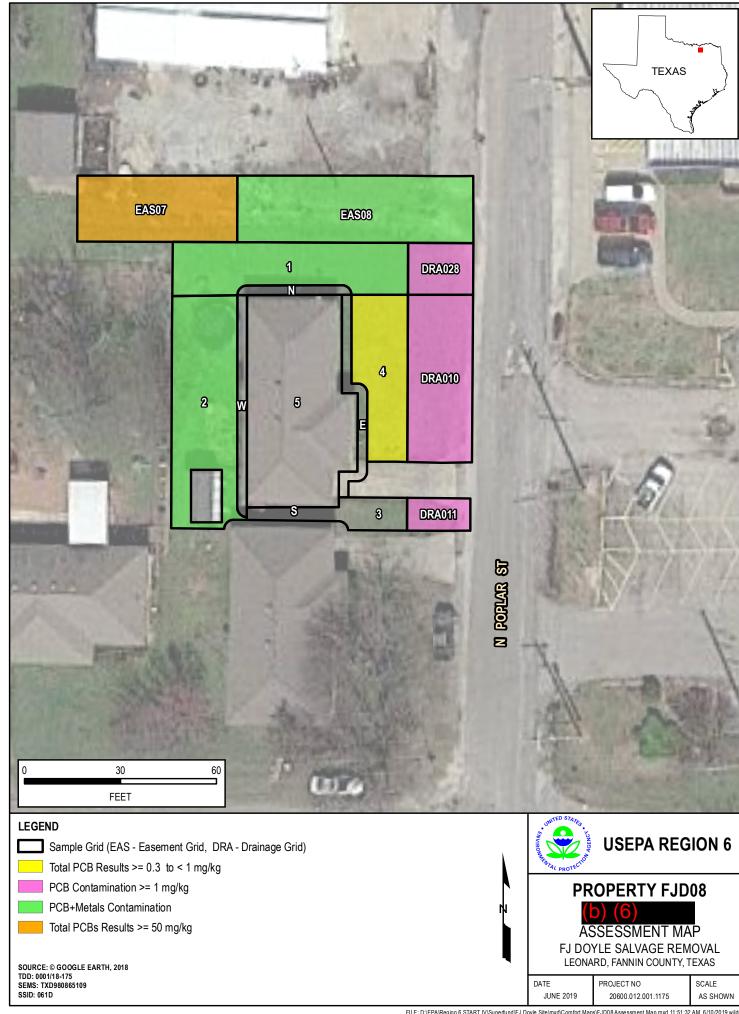
Given under my hand and seal of office this 19th day of June, (year). 2019.

Notary Publie's Signature

OLARY PURE OF TELE

ANVI GANDHI
Notary Public
STATE OF TEXAS
My Comm. Exp. 04-18-23
Notary ID # 13198105-1

(Personalized Seal)



# Assessment Table Soil Analytical Data Assessment Sample Results -(b) (6) - FJD08 Leonard, Fannin County, Texas

	Analyte CAS.NO				Aroclors	Total PCBs GCSV-07-1	Metals	Arsenic 7440-38-2	Cobalt 7440-48-4		7439-92-1	Manganese 7439-96-5	SVOCs	Benzo(a)anthracene	Benzo(a)pyrene 50-32-8	Benzo(b)fluoranthene		Indeno(1,2,3-cd)pyrene 193-39-5
	Units					mg/kg		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
	Site Specific Cleanup Levels					1		20	23	3100	400	1800		11	1.1	11	1.1	11
Station	Sample ID	Depth	Date	Туре														
DRA10	DRA10-20180501-01-51	0"-1"	5/1/2018	FS		4.96		9.58	16.2	189	43.7	1550		0.00854 U	0.26 JQ	0.01 U	0.02 U	0.24 JQ
DRA10	DRA10-20180501-06-51	0"-6"	5/1/2018	FS		6.72		11	17.5	186	53.7	1430		0.05 JQ	0.07 JQ	0.12 JQ	0.02 U	0.08 JQ
DRA10	DRA10-20180501-12-51	6"-12"	5/1/2018	FS		0.61 JH		5.79	12.9	79.2	35.1	1280		0.03 JQ	0.01 U	0.01 U	0.02 U	0.01 U
DRA11	DRA11-20180501-01-51	0"-1"	5/1/2018	FS		1.37 JK		11	11.7	146	36.1	1040		0.25 JQ	0.4 JQ	0.6	0.08 JQ	0.37 JQ
DRA11	DRA11-20180501-01-52	0"-1"	5/1/2018	FD		0.63 JK		11.5	12.8	134	36.4	1020		0.28 JQ	0.45	0.65	0.11 JQ	0.48
DRA11	DRA11-20180501-06-51	0"-6"	5/1/2018	FS		4.9 JH		19.3	16.2	122	42.9	1440		0.23 JQ	0.38 JQ	0.54	0.03 JQ	0.39 JQ
DRA11	DRA11-20180501-12-51	6"-12"	5/1/2018	FS		0.21		8.23	18.5	31.4	30.8	1760		0.03 JQ	0.01 U	0.06 JQ	0.02 U	0.01 U
DRA28	DRA28-20180502-01-51	0"-1"	5/2/2018	FS		38.7		6.93	10.9	1120	82.4	1130 JK		0.15 JQ	0.21 JQ	0.4	0.06 JQ	0.23 JQ
DRA28	DRA28-20180502-06-51	0"-6"	5/2/2018	FS		4.53		7.77	14.7	295	57.6	1340		0.06 JQ	0.11 JQ	0.2 JQ	0.02 JQ	0.1 JQ
DRA28	DRA28-20180502-24-51	12"-24"	5/2/2018	FS		2.35		8.54	17.9	64.5	42.5	1600 JK		0.17 JQ	0.12 U	0.15 U	0.21 U	0.16 U
DRA28	DRA28-20180502-12-51	6"-12"	5/2/2018	FS		3.02		6.91	12.9	40.9	45	1400 JK		0.02 JQ	0.02 JQ	0.01 U	0.02 U	0.02 JQ
EAS07	EAS07-20180503-01-51	0"-1"	5/3/2018	FS		95.1		8.69	10.3	1490	63.5	1430 JK		0.00833 U	0.02 JQ	0.01 U	0.02 U	0.02 JQ
EAS07	EAS07-20180503-06-51	0"-6"	5/3/2018	FS		32.6		9.93	5.14	884	37.6	692 JK		0.02 JQ	0.04 JQ	0.07 JQ	0.01 U	0.04 JQ
EAS07	EAS07-20180503-24-51	12"-24"	5/3/2018	FS		2.42		4.25	19.6	21.3	29.3	2970		0.00861 U	0.01 U	0.01 U	0.02 U	0.01 U
EAS07	EAS07-20180503-24-52	12"-24"	5/3/2018	FD		3.94		5.06	16.3	15.6	18.9	2040		0.00865 U	0.01 U	0.01 U	0.02 U	0.01 U
EAS07	EAS07-20180503-36-51	24"-36"	5/3/2018	FS		72.6		2.74	3.78	111	14.6	858		0.00902 U	0.01 U	0.01 U	0.02 U	0.01 U
EAS07	EAS07-20180503-12-51	6"-12"	5/3/2018	FS		1.33 JL		5.38	15	32.1	40.7	1480		0.00905 U	0.01 U	0.01 U	0.02 U	0.01 U
EAS08	EAS08-20180503-01-51	0"-1"	5/3/2018	FS		4.12 JL		6.42	3.16	393	16.9	557		0.06 JQ	0.12 JQ	0.19 JQ	0.03 JQ	0.11 JQ
EAS08	EAS08-20180503-06-51	0"-6"	5/3/2018	FS		8.51		6.94	6.67	420	21.6	1090		0.03 JQ	0.06 JQ	0.09 JQ	0.01 U	0.06 JQ
EAS08	EAS08-20180503-24-51	12"-24"	5/3/2018	FS		0.91 JK		9.96	14.6	62.5 JK	30	1550 JK		0.00927 U	0.01 U	0.01 U	0.02 U	0.01 U
EAS08	EAS08-20180503-24-52	12"-24"	5/3/2018	FD		3.25 JK		4.76	17.3	25.6 JK	23.6	1840 JK		0.00867 U	0.01 U	0.01 U	0.02 U	0.01 U
EAS08	EAS08-20180503-36-51	24"-36"	5/3/2018	FS		0.08 JL		5.98	16.3	29.2	21.3	2070		0.00891 U	0.01 U	0.01 U	0.02 U	0.01 U
EAS08	EAS08-20180503-12-51	6"-12"	5/3/2018	FS		0.58 JL		12.6	15.5	62.8	28.2	1930		0.00885 U	0.01 U	0.01 U	0.02 U	0.01 U
FJD08-01	FJD08-01-20180502-01-51	0"-1"	5/2/2018	FS		8.78 JL		6.59	15.9	142	39.8	1890		0.04 JQL	0.05 JQL	0.09 JQL	0.02 UJL	0.05 JQL
FJD08-01	FJD08-01-20180502-06-51	0"-6"	5/2/2018	FS		7.11		7.41	13.7	85.7	35.9	1520		0.07 JQ	0.08 JQ	0.11 JQ	0.02 U	0.07 JQ
FJD08-01	FJD08-01-2018050202-24-51	12"-24"	5/2/2018	FS		0.65 JK		6.2	16.7	41.3	27.3	2450 JK		0.02 JQ	0.01 U	0.01 U	0.02 U	0.01 U
FJD08-01	FJD08-01-2018050202-24-52	12"-24"	5/2/2018	FD		1.57 JK		6.5	23.6	26.1	27.5	3290 JK		0.009 U	0.01 U	0.01 U	0.02 U	0.01 U
FJD08-01	FJD08-01-20180502-12-51	6"-12"	5/2/2018	FS		1.08 JK		4.47	18.6	22	27	2030		0.02 JQ	0.01 U	0.01 U	0.02 U	0.01 U
FJD08-02	FJD08-02-20180430-01-51		4/30/2018			3.74 JK		9.5	11.8	59.2	69.7	994		0.02 JQ	0.01 U	0.01 U	0.02 U	0.01 U
FJD08-02	FJD08-02-20180430-12-51	_	4/30/2018			0.14		4.31	16.2	15.1	22.1	1800		0.02 JQ	0.01 U	0.01 U	0.02 U	0.01 U



### Assessment Table Soil Analytical Data Assessment Sample Results -(b) (6) - FJD08 Leonard, Fannin County, Texas

	Analyte				Aroclors	Total PCBs	Metals	Arsenic	Cobalt	Copper	Lead	Manganese	SVOCs	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Dibenz(a,h)anthracene	Indeno(1,2,3-cd)pyrene
	CAS.NO					GCSV-07-1		7440-38-2	7440-48-4	7440-50-8	7439-92-1	7439-96-5		56-55-3	50-32-8	205-99-2	53-70-3	193-39-5
	Units					mg/kg		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
	Site Specific Cleanup Levels					1		20	23	3100	400	1800		11	1.1	11	1.1	11
Station	Sample ID	Depth	Date	Type														
FJD08-02	FJD08-02-20180503-06-51	0"-6"	5/3/2018	FS		0.03 U		6.96	16.3	75.2	62.9	1740		0.03 JQ	0.03 JQ	0.05 JQ	0.02 U	0.02 JQ
FJD08-03	FJD08-03-20180430-01-51	0"-1"	4/30/2018	FS		0.03 JQH		8.54	10.2	33.9 JK	26.1	1120 JK		0.02 JQ	0.01 U	0.01 U	0.02 U	0.01 U
FJD08-03	FJD08-03-20180430-06-51	0"-6"	4/30/2018	FS		0.07 JH		10.3	14.1	31.8	35.3	1220		0.04 JQ	0.01 U	0.08 JQ	0.02 U	0.05 JQ
FJD08-03	FJD08-03-20180430-06-52	0"-6"	4/30/2018	FD		0.26 JK		6.2	9.53	24.3	24	826		0.03 JQ	0.01 U	0.01 U	0.02 U	0.01 U
FJD08-03	FJD08-03-20180430-12-51	6"-12"	4/30/2018	FS		0.17 JL		8.31	14.1	26.8	25.9	1630		0.04 JQ	0.04 JQ	0.06 JQ	0.02 U	0.04 JQ
FJD08-04	FJD08-04-20180430-01-51	0"-1"	4/30/2018	FS		0.00657 U		10.5	11.9	61.4	28	1240		0.03 JQ	0.04 JQ	0.05 JQ	0.02 U	0.04 JQ
FJD08-04	FJD08-04-20180430-06-51	0"-6"	4/30/2018	FS		0.29 JH		15.6	21.7	50.5	36.3	1920		0.04 JQ	0.01 U	0.06 JQ	0.02 U	0.04 JQ
FJD08-04	FJD08-04-20180430-06-52	0"-6"	4/30/2018	FD		0.2		15.1	17.2	48.8	47.5	1730		0.00898 U	0.01 U	0.01 U	0.02 U	0.01 U
FJD08-04	FJD08-04-20180430-12-51	6"-12"	4/30/2018	FS		0.55 JH		11.7	21.2	73.9 JK	51	2290 JK		0.02 JQ	0.01 U	0.01 U	0.02 U	0.01 U
FJD08-04	FJD08-04-20180430-12-52	6"-12"	4/30/2018	FD		0.19		9.39	18.9	47 JK	46.1	1690 JK		0.02 JQ	0.01 JQ	0.03 JQ	0.02 U	0.01 U
FJD08-05ESW	FJD08-05-DLESW-20180502-51	0"-6"	5/2/2018	FS		0.45 JL		NA	NA	NA	NA	NA		NA	NA	NA	NA	NA

#### Notes:

FS - Field Sample

FD - Field Duplicate

NP - Not Published

mg/kg - milligrams per kilogram.

" - Inches

H - High bias

J - The identification of the analyte is acceptable; the reported value is an estimate

K - Unknown bias

L - Low bias

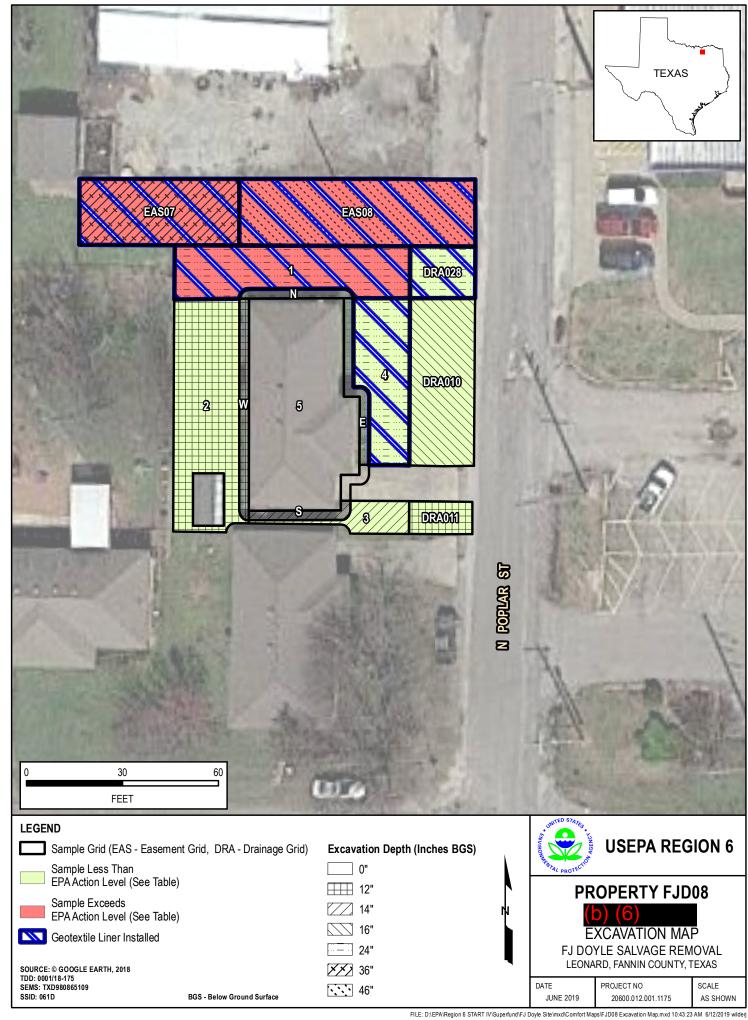
Q - Detected below the quantitation limit

U - Analyte not detected

**Bold** - Value exceeds the detection limit for specific sample analyte

Highlighted value exceeds the Cleanup level for the specific sample analyte





### Removal Table Soil Analytical Data Confirmation Sample Results - (b) (6) - FJD08 Leonard, Fannin County, Texas

	Analyte				Aroclors	Total PCBs	Metals	Arsenic	Cobalt	Copper	Lead	Manganese	SVOCs	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Dibenz(a,h)anthracene	Indeno(1,2,3-cd)pyrene
	CAS.NO					GCSV-07-1			7440-48-4					56-55-3	50-32-8	205-99-2	53-70-3	193-39-5
	Units					mg/kg		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
	Site Specific Cleanup Levels				<u> </u>	1		20	23	3100	400	1800		11	1.1	11	1.1	11
Station	Sample ID	Depth	Date	Type														
DRA10	DRA010-20181203-16-56	16"-16"	12/3/2018	FS		0.8		9.48	13.3 JL	97.2	35.5	1240		0.033	0.046	0.094	0.013	0.06
DRA11	DRA011-20181203-12-56	12"-12"	12/3/2018	FS		0.58		18.9	12.5 JL	193	36.1	1190		0.13	0.18	0.39	0.037	0.19
DRA28	DRA028-20181217-24-56	24"-24"	12/17/2018	FS		0.039		6.69	12.9	35.5	25.8 JH	1280 JK		0.0075	0.0062	0.0099 JH	0.0024 JQ	0.0056
EAS07	EAS07-20190115-36-56	36"-36"	1/15/2019	FS		4.8		5.09	9.33	24.8	17.7	1140		0.0044	0.0039 JQ	0.0057	0.0016 U	0.0025 JQ
EAS08	EAS08-20190114-46-56	46"-46"	1/14/2019	FS		25		8.72	17.6	257	28.9	2330		0.014	0.037	0.067	0.0092	0.04
FJD08-01	FJD08-01-20181212-24-56	24"-24"	12/12/2018	FS		0.021		6.88	20.4	16.1	22.9	3070		0.0016 U	0.0015 JQ	0.0028 JQ	0.0016 U	0.0014 JQ
FJD08-02	FJD08-02-20181130-12-56	12"-12"	11/30/2018	FS		0 U		7.3	22.4 JL	19.1	33.8 JL	1740		0.0024 JQ	0.0028 JQ	0.006	0.0036 JQ	0.0061
FJD08-03	FJD08-03-20181203-14-56	14"-14"	12/3/2018	FS		0.024		8.41	13.5 JL	22.6	34.8	1120		0.0047	0.0059	0.0095	0.0022 JQ	0.0052
FJD08-04	FJD08-04-20181212-24-56	24"-24"	12/12/2018	FS		0.04		5.83	14.7	15.9	21.9	1690		0.0016 U	0.001 U	0.0012 U	0.0016 U	0.0008 U

Notes:

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mg/kg - milligrams perkilogram.

" - Inches

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K - Unknown bias

L - Low bias

Q - Detected below the quantitation limit

U - Analyte not detected

**Bold** - Value exceeds the detection limit for specific sample analyte

Highlighted value exceeds the Cleanup level for the specific sample analyte



### UNITED STATES ENVIRONMENTAL PROTECTION AGENCY



REGION 6 1201 ELM STREET, SUITE 500 DALLAS, TEXAS 75270-2102

19 June 2019

(b)	<b>(6)</b>		
		Š	
Lec	nard.	Texas	75452

RE: F.J. Doyle Salvage, Property Identification # FJD09 Soil Removal Action at 905 N. Poplar St.

Dear (b) (6) Leonard, TX 75452. Property Legal Description: COLLEGE ADDN, (b) (6)

The purpose of this letter is to provide you with documentation confirming that the United States Environmental Protection Agency (EPA) recently completed the removal of soil contaminated by polychlorinated biphenyls (PCBs), semivolatile organic compounds (SVOCs), and metals on your property and surrounding properties; and, remediation consisted of removal of soil from various locations on your property. The remediation activities were conducted based on previous sampling results reviewed by the EPA, the Texas Commission on Environmental Quality (TCEQ), and the Agency for Toxic Substances and Disease Registry (ATSDR). The removal assessment activities in the area were conducted between 26 April 2018 and 05 October 2018. The removal action activities in the area were conducted between 05 November 2018 and 19 February 2019. The maximum excavation depth (variable due to the depth of bedrock) on your property at (b) (6) was up to 12 inches below the ground surface. Your property was then backfilled with clean soil and sodded, seeded, backfilled with limestone rock, or some combination of those. See the attached analytical summary table and map for sampling results for your property and surrounding City of Leonard right-of-way properties.

Please save this document for your permanent records. If you sell, transfer, or refinance the property you will have documentation of the PCB, SVOCs, and metal contamination and the EPA removal action conducted on your property.

The EPA thanks you for your patience and understanding as we know that cleanup activities of this nature are disruptive to the community. If you have any questions concerning the work conducted on your property, you can contact me at 214-665-6609.

Sincerely,

Gary Moore

Federal On-Scene Coordinator

U.S. EPA Region 6 - Superfund Division

### Attachments:

Assessment Map Assessment Table Excavation Map Removal Table

State of Texas

County of County

Before me, And Canoni on this day personally appeared Gard Moore known to me (or proved to me on the oath of Appearant or through (description of identity card or other document) to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he executed the same for the purposes and consideration therein expressed.

Given under my hand and seal of office this \_\_\_\_\_\_ day of \_\_\_\_\_\_, (year). 2019

Notary Public's Signature

PART PLOTE

ANVI GANDHI

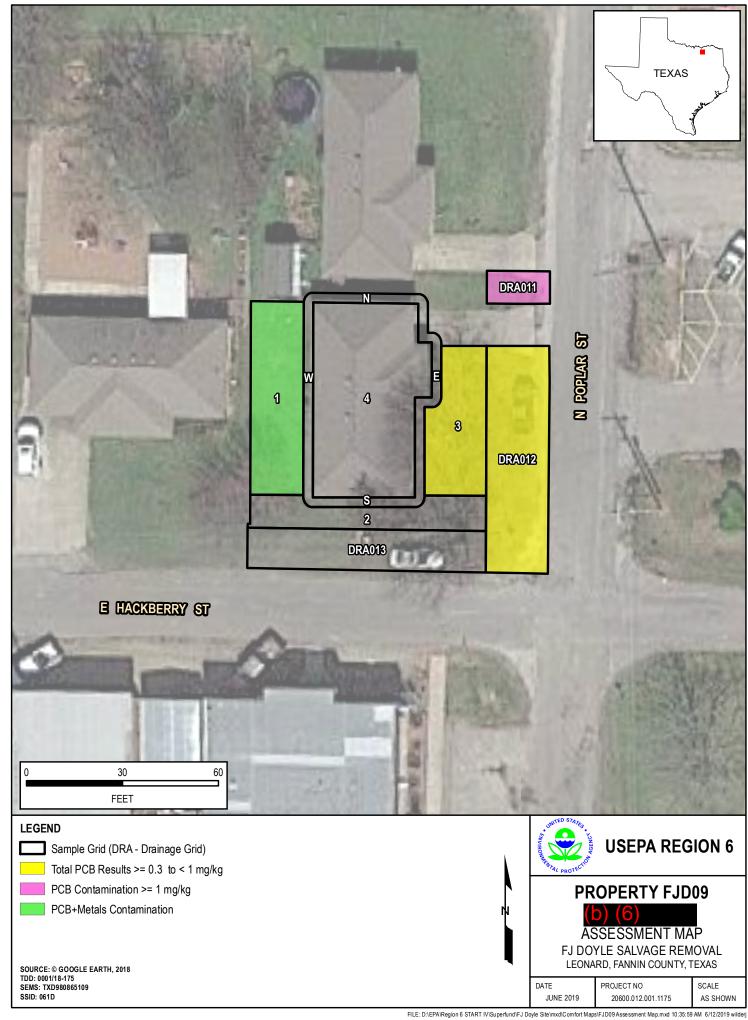
Notary Public

STATE OF TEXAS

My Comm. Exp. 04-18-23

Notary ID # 13198105-1

(Personalized Seal)



### Assessment Table Soil Analytical Data Assessment Sample Results - (b) (6) - FJD09 Leonard, Fannin County, Texas

	Analyte CAS.NO Units				Aroclors	Total PCBs GCSV-07-1 mg/kg	COC-Metals	Arsenic 7440-38-2 mg/kg	Coba	Copper 7440-50-8 mg/kg	ج م م 7439-92-1 mg/kg	Manganese 7439-96-5 mg/kg	coc-svocs	Benzo(a)anthracene	Benzo(a)pyrene 50-32-8 mg/kg	Benzo(b)fluoranthene	Dibenz(a,h)anthracene 70-3 mg/kg	Indeno(1,2,3-cd)pyrene 39-5 mg/kg
	Site Specific Cleanup Levels					1		20	23	3100	400	1800		11	1.1	11	1.1	11
Station	Sample ID	Depth	Date	Туре										-				
DRA11	DRA11-20180501-01-51	0"-1"	5/1/2018	FS		1.37 JK		11	11.7	146	36.1	1040		0.25 JQ	0.4 JQ	0.6	0.08 JQ	0.37 JQ
DRA11	DRA11-20180501-01-52	0"-1"	5/1/2018	FD		0.63 JK		11.5	12.8	134	36.4	1020		0.28 JQ	0.45	0.65	0.11 JQ	0.48
DRA11	DRA11-20180501-06-51	0"-6"	5/1/2018	FS		4.9 JH		19.3	16.2	122	42.9	1440		0.23 JQ	0.38 JQ	0.54	0.03 JQ	0.39 JQ
DRA11	DRA11-20180501-12-51	6"-12"	5/1/2018	FS		0.21		8.23	18.5	31.4	30.8	1760		0.03 JQ	0.01 U	0.06 JQ	0.02 U	0.01 U
DRA12	DRA12-20180501-01-51	0"-1"	5/1/2018	FS		0.75		6.78	9.92	80	37.4	1010		0.25 JQ	0.43	0.73	0.04 JQ	0.43
DRA12	DRA12-20180501-06-51	0"-6"	5/1/2018	FS		0.28 JH		7.52	11.4	62.4	36.3	1100		0.08 JQ	0.12 JQ	0.17 JQ	0.03 JQ	0.12 JQ
DRA12	DRA12-20180501-06-52	0"-6"	5/1/2018	FD		0.33 JH		6.97	10.2	77.7	38.7	965		0.27 JQ	0.26 JQ	0.3 JQ	0.04 JQ	0.2 JQ
DRA12	DRA12-20180501-12-51	6"-12"	5/1/2018	FS		0.32 JH		8.45	10.5	54	33.5	983		0.04 JQ	0.05 JQ	0.08 JQ	0.02 U	0.07 JQ
DRA13	DRA13-20180501-01-51	0"-1"	5/1/2018	FS		0.03 U		6.44	14.3	25.9	54	1390		0.05 JQ	0.01 U	0.01 U	0.02 U	0.01 U
DRA13	DRA13-20180501-06-51	0"-6"	5/1/2018	FS		0.03 U		5.13	11.6	25.9	66.3	1160		0.09 JQ	0.11 JQ	0.13 JQ	0.02 JQ	0.1 JQ
DRA13	DRA13-20180501-12-51	6"-12"	5/1/2018	FS	0	.00679 U		5.37	16	24.9	70.6	1870		0.02 JQ	0.01 U	0.03 JQ	0.02 U	0.01 U
FJD09-01	FJD09-01-20180430-01-51	0"-1"	4/30/2018	FS	0	0.00643 U		8.9	10.4	42.4	29.5	960		0.03 JQ	0.01 U	0.06 JQ	0.02 U	0.05 JQ
FJD09-01	FJD09-01-20180430-06-51	0"-6"	4/30/2018	FS		2		4.52	18.9	12.3	37.5	1850		0.00892 U	0.01 U	0.01 U	0.02 U	0.01 U
FJD09-01	FJD09-01-20180430-12-51	6"-12"	4/30/2018	FS	0	0.00717 U		4.26	13.5	13.2	23.3	691		0.00916 U	0.01 U	0.01 U	0.02 U	0.01 U
FJD09-02	FJD09-02-20180430-01-51	0"-1"	4/30/2018	FS	0	).00633 U		5.4	11.5	28.4 JK	48.7	2980 JJK		0.03 JQ	0.04 JQ	0.07 JQ	0.02 U	0.04 JQ
FJD09-02	FJD09-02-20180430-06-51	0"-6"	4/30/2018	FS	0	).00703 U		5.18	9.93	23 JK	38.4	932 JK		0.02 JQ	0.01 U	0.06 JQ	0.02 U	0.01 U
FJD09-02	FJD09-02-20180430-12-51	6"-12"	4/30/2018	FS	0	).00705 U		3.78	14.7	15.1	24.8	1390		0.00937 U	0.01 U	0.01 U	0.02 U	0.01 U
FJD09-03	FJD09-03-20180430-01-51	0"-1"	4/30/2018	FS		0.51 JH		8.58	14.1	64.1	40.6	1380		0.18 JQ	0.29 JQ	0.46	0.06 JQ	0.32 JQ
FJD09-03	FJD09-03-20180430-06-51	0"-6"	4/30/2018	FS	0	).00687 U		5.94	9.57	72.8	37.3	1130		0.08 JQ	0.15 JQ	0.21 JQ	0.03 JQ	0.17 JQ
FJD09-03	FJD09-03-20180430-12-51	6"-12"	4/30/2018	FS		0.08		5.49	21.6	16.9 JK	41.1	2270 JK		0.00915 U	0.01 U	0.01 U	0.02 U	0.01 U
FJD09-04NSEW	FJD09-04-DLNSEW-20180502-51	0"-6"	5/2/2018	FS		0.09 JK		NA	NA	NA	NA	NA		NA	NA	NA	NA	NA

### Notes:

FS - Field Sample

FD - Field Duplicate

NP - Not Published

mg/kg - milligrams per kilogram.

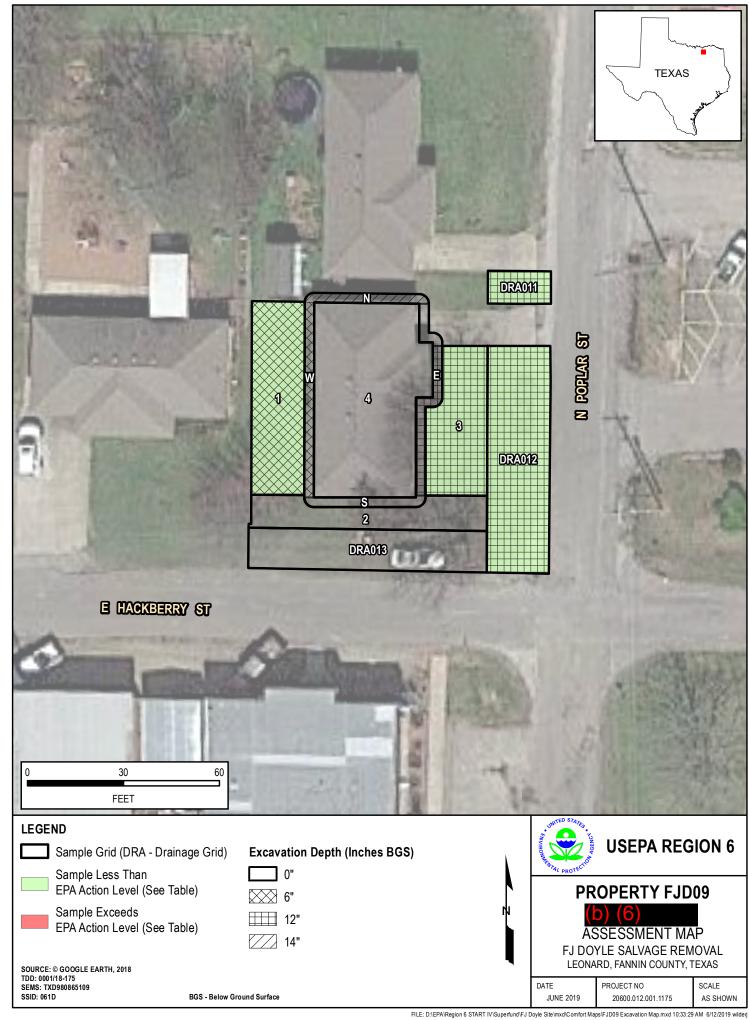
- " Inches
- H High bias
- J The identification of the analyte is acceptable; the reported value is an estimate
- K Unknown bias

- L Low bias
- $\ensuremath{\mathbf{Q}}$  Detected below the quantitation limit
- U Analyte not detected

**Bold** - Value exceeds the detection limit for specific sample analyte

Highlighted value exceeds the cleanup level for the specific sample analyte





### Removal Table Soil Analytical Data Confirmation Sample Results - (b) (6) - FJD09

	•	<b>\</b>	<b>,</b> ,
Leonard,	Fannin	County,	Texas

	Analyte				Aroclors	Total PCBs	Metals	Arsenic	Cobalt	Copper	Lead	Manganese	SVOCs	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Dibenz(a,h)anthracene	Indeno(1,2,3-cd)pyrene
	CAS.NO					GCSV-07-1		7440-38-2	7440-48-4	7440-50-8	7439-92-1	7439-96-5		56-55-3	50-32-8	205-99-2	53-70-3	193-39-5
	Units					mg/kg		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
	Site Specific Cleanup Levels					1		20	23	3100	400	1800		11	1.1	11	1.1	11
Station	Sample ID	Depth	Date	Type														
DRA11	DRA011-20181203-12-56	12"-12"	12/3/2018	FS		0.58		18.9	12.5 JL	193	36.1	1190		0.13	0.18	0.39	0.037	0.19
DRA12	DRA012-20181204-12-56	12"-12"	12/4/2018	FS		0 U		7.01	12.2	35.4 B	33.8	1180		0.056	0.057	0.091	0.0094	0.041
FJD09-01	FJD09-01-20181130-06-56	6"-6"	11/30/2018	FS		0 U		7.13	14.7 JL	20.2	37 JL	1540		0.0063	0.0066	0.012	0.0016 U	0.0053
FJD09-03	FJD09-03-20181204-12-56	12"-12"	12/4/2018	FS		0.56		6.49	12.7	19.8 B	23.3	1140		0.021	0.03	0.063	0.0091	0.036

Notes:

FS - Field Sample

FD - Field Duplicate

NP - Not Published

mg/kg - milligrams perkilogram.

" - Inches

H - High bias

J - The identification of the analyte is acceptable; the reported value is an estimate

K - Unknown bias

L - Low bias

Q - Detected below the quantitation limit

U - Analyte not detected

**Bold** - Value exceeds the detection limit for specific sample analyte

Highlighted value exceeds the cleanup level for the specific sample analyte



### APPENDIX J TDD NO. 0001/18-175

Page 1 Of 3

U.S. EPA, Region 6 1445 Ross Avenue, Suite 1200 Dallas, TX 75202-2733 TDD #: 0001/18-175 Amendment #:

Contract #: EP-S5-17-02

Vendor: WESTON SOLUTIONS, INC.

TDD Title: F.J. Doyle Salvage Removal Action

Verbal Date :
Start Date : 09/28/2018

Purpose: TDD INITIATION Start Date: 09/28/2018

Completion Date: 06/28/2019

Effective Date: 09/28/2018

Priority: HIGH
Overtime Authorized: Yes
Invoice Unit:

SSID: 0600 Work Area: Response / Removal

Project/Site Name: F.J. Doyle Salvage Removal Action

Work Area Code: RS

Project Address: 905 N. Poplar St.

Activity: Fund Lead Removal

l	Authorized TDD Ceiling :	Amount	LOE (Hours)
	Previous Action(s):	\$0.00	0.00
	This Action :	\$0.00	0.00
l	New Total :	\$0.00	0.00

#### Specific Elements:

Provide -Removal Assistance As Described

#### Description of Work:

See Schedule

Region Specific:

Acco	ounting and A	opropriati	on Informatio	n:					SFO:	
Line	Budget / FY	Approp	Budget	Program Flement	Object Class	Site Project	Cost	DCN Line-ID	Funding Category	TDD Amount

TDD#: 0001/18-175 Amendment #:

Contract #: EP-S5-17-02

/endor: WESTON SOLUTIONS, INC.		Contract #: EP-SS-17-02
Project Officer: Will LaBombard		Branch Mail Code:
		Phone Number: 214-665-7199
(Signature)	(Date)	Fax Number :
Contracting Officer Representative Gary Moore		Branch Mail Code :
		Phone Number: 214-665-6609
(Signature)	(Date)	Fax Number :
Contract Specialist: Michael J. Pheeny		Branch Mail Code :
		Phone Number: 214-665-2798
(Signature)	(Date)	Fax Number :
Contracting Officer: Michael J. Pheeny		Branch Mail Code :
Electronically Signed by Michael J. Pheeny	10/04/2018	Phone Number: 214-665-2798
(Signature)	(Date)	Fax Number :
Other Agency Official		Branch Mail Code :
		Phone Number :
(Signature)	(Date)	Fax Number :

TDD #: 0001/18-175 Amendment #:

Contract #: EP-S5-17-02

Vendor: WESTON SOLUTIONS, INC.

Description of Work: The initial funding ceiling for this TDD is set at \$185,000. available, all TDD costs shall be invoiced against theoldest 6A00E or 6A00S task order funding.

The SSID for the site is 061D and shall be used on all forms, reports, emails, communications, and deliverables.

The contractor shall:

- 1. Prepare a removal support workplan which shall include post excavation sampling, air monitoring, documentation (written, photo, video), and waste tracking (coordinated with ERRS contractor), with estimated detailed project costs;
- 2. Prepare HASP for removal support activities to be conducted and coordinated with the ERRS Contractor;
- 3. Providing technical assistance to the OSC as maybe requested;
- 4. Preparing draft documents (ie. fact sheets, polreps, tables, etc);
- 5. Participating in meetings with state and local officials and the public;
- 6. Preparing final report documenting cleanup activities conducted by the team;

In addition, the contractor shall: Attend Public Meeting, Brief OSC, Compile Press Clippings, Conduct Air Monitoring, Conduct Multimedia Sampling, Coordinate Activities w/other Agencies (Fed, St, Loc), Coordinate w/Federal, State and Local Officials, Document On-Site Activities, Monitor Cleanup Activities, Notify OSC of Recommendation, Prepare Draft After Action Report, Prepare Draft PolRep, Prepare Fact Sheet, Prepare Graphics/Charts, Prepare Report, Prepare Safety Plan, Prepare Sampling Plan, Prepare Site Sketch/Map, Prepare START Work Plan, Prepare Transmittals, Provide Chronology of Events, Provide Photo Documentation, Provide Video Documentation, Take Representative Samples per OSC direction, Prepare Maps and Sketches, Provide Analytical Services, Provide Graphics/Charts

U.S. EPA, Region 6 1445 Ross Avenue, Suite 1200 Dallas, TX 75202-2733

TDD#: 0001/18-175 Amendment #: 001 Contract #: EP-S5-17-02

Vendor: WESTON SOLUTIONS, INC.

TDD Title: F.J. Doyle Salvage Removal Action

Purpose: INCREMENTAL FUNDING, ADD COR Start Date: 09/28/2018

Completion Date: 06/28/2019

Effective Date: 09/28/2018

 $\textbf{Priority}: {}^{\texttt{HIGH}}$ Overtime Authorized: Yes Invoice Unit:

SSID: 0600 Project/Site Name: F.J. Doyle Salvage Removal Action

Project Address: 905 N. Poplar St.

**Zip Code**: 75452

Work Area: Response / Removal

Work Area Code :  $\ensuremath{^{\text{RS}}}$ 

Activity Code: RV

Verbal Date :

Activity: Fund Lead Removal

County: Fannin City: Leonard State :  $\mathbb{T}^{\boldsymbol{X}}$ Emergency Code:

Performance Based : No

Operable Unit:

Authorized TDD Ceiling :	Amount	LOE (Hours)
Previous Action(s):	\$0.00	0.00
This Action :	\$0.00	0.00
New Total :	\$0.00	0.00

### Specific Elements:

See Schedule

#### Description of Work:

See Schedule

Region Specific:

**CERCLIS**:: TXD980865109 Misc 2:

Acco	ounting and A	ppropriati	on Informatio	n:					SFO:	
Line	Budget / FY	Approp	Budget	Program Flement	Object Class	Site Project	Cost	DCN Line-ID	Funding Category	TDD Amount
									• •	

TDD #: 0001/18-175 Amendment #: 001 Contract #: EP-S5-17-02

endor: WESTON SOLUTIONS, INC.		Contract #: EP-S5-17-02	
Project Officer: Will LaBombard		Branch Mail Code:	
		Phone Number: 214-665-7199	
(Signature)	(Date)	Fax Number :	
ontracting Officer Representative Gary Moore		Branch Mail Code :	
·		Phone Number: 214-665-6609	
(Signature)	(Date)	Fax Number :	
Contract Specialist: Brian Delaney	, ,	Branch Mail Code :	
2		Phone Number: 214-665-7473	
(Signature)	(Date)	Fax Number :	
Contracting Officer: Brian Delaney		Branch Mail Code :	
Electronically Signed by Brian Delaney	01/31/2019	Phone Number: 214-665-7473	
(Signature)	(Date)	Fax Number :	
	· · ·		
ther Agency Official	<u> </u>	Branch Mail Code : Phone Number :	
(Signature)	(Date)	Fax Number :	
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Provide Chronology of Events, Provide Photo Documentation, Provide Video Documentation,

Prepare Maps and Sketches, Provide Analytical Services, Provide Graphics/Charts

Take Representative Samples per OSC direction,

Page 3 Of **Technical Direction Document** TDD#: 0001/18-175 U.S. EPA, Region 6 1445 Ross Avenue, Suite 1200 Amendment #: 001 Dallas, TX 75202-2733 Contract #: EP-S5-17-02 Vendor: WESTON SOLUTIONS, INC. Specific Elements: Base ORIG - Provide - Removal Assistance As Described Description of Work: Amendment 001 - Increase the funding ceiling by \$15,000 (from \$185,000 to \$200,000) so that work can continue. Also, add OSC Nic Brescia as an alternate COR for the TDD. Base ORIG - The initial funding ceiling for this TDD is set at \$185,000. When available, all TDD costs shall be invoiced against theoldest 6A00E or 6A00S task order funding. The SSID for the site is 061D and shall be used on all forms, reports, emails, communications, and deliverables. The contractor shall: 1. Prepare a removal support workplan which shall include post excavation sampling, air monitoring, documentation (written, photo, video), and waste tracking (coordinated with ERRS contractor), with estimated detailed project costs; 2. Prepare HASP for removal support activities to be conducted and coordinated with the ERRS Contractor; 3. Providing technical assistance to the OSC as maybe requested; 4. Preparing draft documents (ie. fact sheets, polreps, tables, etc); 5. Participating in meetings with state and local officials and the public; 6. Preparing final report documenting cleanup activities conducted by the team; In addition, the contractor shall: Attend Public Meeting, Brief OSC, Compile Press Clippings, Conduct Air Monitoring, Conduct Multimedia Sampling, Coordinate Activities w/other Agencies (Fed, St, Loc), Coordinate w/Federal, State and Local Officials, Document On-Site Activities, Monitor Cleanup Activities, Notify OSC of Recommendation, Prepare Draft After Action Report, Prepare Draft PolRep, Prepare Fact Sheet, Prepare Graphics/Charts, Prepare Report, Prepare Safety Plan, Prepare Sampling Plan, Prepare Site Sketch/Map, Prepare START Work Plan, Prepare Transmittals,

TDD#: 0001/18-175 Amendment #: 002 Contract #: EP-S5-17-02

Vendor: WESTON SOLUTIONS, INC.

TDD Title: F.J. Doyle Salvage Removal Action

Start Date: 09/28/2018 Purpose: INCREMENTAL FUNDING

> Completion Date: 06/28/2019 Effective Date: 09/28/2018

Verbal Date :

 $\textbf{Priority}: {\tt HIGH}$ Overtime Authorized: Yes Invoice Unit:

SSID: 0600

Work Area: Response / Removal

Project/Site Name: F.J. Doyle Salvage Removal Action Work Area Code :  $\ensuremath{^{\text{RS}}}$ Project Address: 905 N. Poplar St.

Activity: Fund Lead Removal

County: Fannin Activity Code: RV City: Leonard Operable Unit: State :  $\mathbb{T}^{\boldsymbol{X}}$ Emergency Code: **Zip Code**: 75452 Performance Based :  $^{\text{No}}$ 

Authorized TDD Ceiling: LOE (Hours) Amount Previous Action(s): \$0.00 0.00 This Action: \$0.00 0.00 \$0.00 0.00 New Total:

Specific Elements:

See Schedule

Description of Work:

See Schedule

Region Specific:

**CERCLIS**:: TXD980865109 Misc 2:

Acco	ccounting and Appropriation Information:								SFO:	
Line	Budget / FY	Approp	Budget	Program Flement	Object Class	Site Project	Cost	DCN Line-ID	Funding Category	TDD Amount

TDD #: 0001/18-175 Amendment #: 002 Contract #: EP-S5-17-02

endor: WESTON SOLUTIONS, INC.		Contract #: EP-S5-17-02	
roject Officer: Will LaBombard		Describ Mail Code	
NIII Zazonaula		Branch Mail Code:  Phone Number: 214-665-7199	
(Signature)	(Date)		
	(Dato)	Fax Number :	
ontracting Officer Representative Gary Moore	,	Branch Mail Code :	
		Phone Number: 214-665-6609	
(Signature)	(Date)	Fax Number :	
Contract Specialist: Brian Delaney		Branch Mail Code :	
		Phone Number: 214-665-7473	
(Signature)	(Date)	Fax Number :	
Contracting Officer: Brian Delaney Electronically Signed by Brian Delaney	02/22/2010	Branch Mail Code :	
	03/22/2019	Phone Number: 214-665-7473	
(Signature)	(Date)	Fax Number :	
ther Agency Official		Branch Mail Code :	
		Phone Number :	
(Signature)	(Date)	Fax Number :	
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Provide Video Documentation,

Prepare Maps and Sketches, Provide Analytical Services, Provide Graphics/Charts

Take Representative Samples per OSC direction,

**Technical Direction Document** Page TDD#: 0001/18-175 U.S. EPA, Region 6 1445 Ross Avenue, Suite 1200 Amendment #: 002 Dallas, TX 75202-2733 Contract #: EP-S5-17-02 Vendor: WESTON SOLUTIONS, INC. Specific Elements: Base ORIG - Provide - Removal Assistance As Described Description of Work: Amendment 002 - Increase the funding ceiling by \$15,000 (from \$200,000 to \$215,000) for completion of final work and removal report. Amendment 001 - Increase the funding ceiling by \$15,000 (from \$185,000 to \$200,000) so that work can continue. Also, add OSC Nic Brescia as an alternate COR for the TDD. Base ORIG - The initial funding ceiling for this TDD is set at \$185,000. When available, all TDD costs shall be invoiced against theoldest 6A00E or 6A00S task order funding. The SSID for the site is 061D and shall be used on all forms, reports, emails, communications, and deliverables. The contractor shall: 1. Prepare a removal support workplan which shall include post excavation sampling, air monitoring, documentation (written, photo, video), and waste tracking (coordinated with ERRS contractor), with estimated detailed project costs; 2. Prepare HASP for removal support activities to be conducted and coordinated with the ERRS Contractor; 3. Providing technical assistance to the OSC as maybe requested; 4. Preparing draft documents (ie. fact sheets, polreps, tables, etc); 5. Participating in meetings with state and local officials and the public; 6. Preparing final report documenting cleanup activities conducted by the team; In addition, the contractor shall: Attend Public Meeting, Brief OSC, Compile Press Clippings, Conduct Air Monitoring, Conduct Multimedia Sampling, Coordinate Activities w/other Agencies (Fed, St, Loc), Coordinate w/Federal, State and Local Officials, Document On-Site Activities, Monitor Cleanup Activities, Notify OSC of Recommendation, Prepare Draft After Action Report, Prepare Draft PolRep, Prepare Fact Sheet, Prepare Graphics/Charts, Prepare Report, Prepare Safety Plan, Prepare Sampling Plan, Prepare Site Sketch/Map, Prepare START Work Plan, Prepare Transmittals, Provide Chronology of Events, Provide Photo Documentation,

TDD#: 0001/18-175 Amendment #: 003 Contract #: EP-S5-17-02

Vendor: WESTON SOLUTIONS, INC.

TDD Title: F.J. Doyle Salvage Removal Action

Purpose: INCREMENTAL FUNDING

Start Date: 09/28/2018

Completion Date: 09/30/2019

Verbal Date :

Effective Date: 09/28/2018

 $\textbf{Priority}: {}^{\texttt{HIGH}}$ Overtime Authorized: Yes Invoice Unit:

SSID: 0600

Work Area: Response / Removal

Project/Site Name: F.J. Doyle Salvage Removal ActionWork Area Code :  $\ensuremath{^{\text{RS}}}$ 

Project Address: 905 N. Poplar St. Activity: Fund Lead Removal

County: Fannin Activity Code: RV City: Leonard Operable Unit: State :  $\mathbb{T}^{\boldsymbol{X}}$ Emergency Code: **Zip Code**: 75452 Performance Based :  $^{\text{No}}$ 

l	Authorized TDD Ceiling :	Amount	LOE (Hours)
l	Previous Action(s):	\$0.00	0.00
l	This Action :	\$0.00	0.00
l	New Total :	\$0.00	0.00

### Specific Elements:

See Schedule

### Description of Work:

See Schedule

Region Specific:

**CERCLIS**:: TXD980865109 Misc 2:

Acco	ounting and Ap	propriati	on Informatio	n:					SFO:	
Line	Budget / FY	Approp	Budget	Program Flement	Object Class	Site Project	Cost	DCN Line-ID	Funding Category	TDD Amount

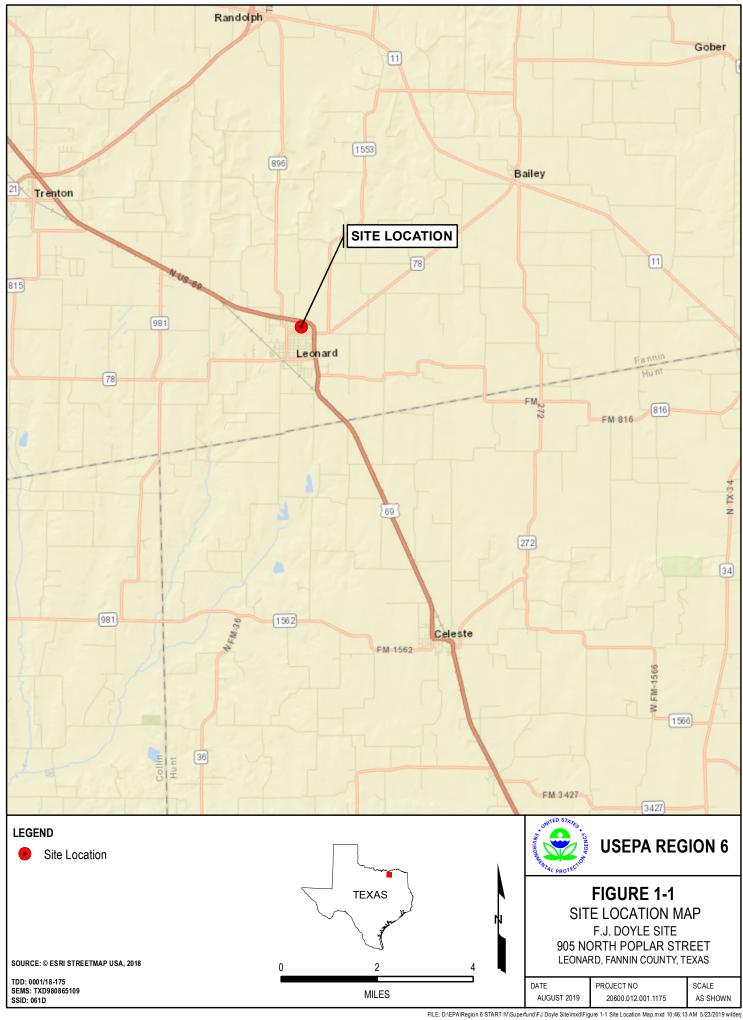
Vendor . WESTON SOLUTIONS, INC.

TDD #: 0001/18-175 Amendment #: 003 Contract #: EP-S5-17-02

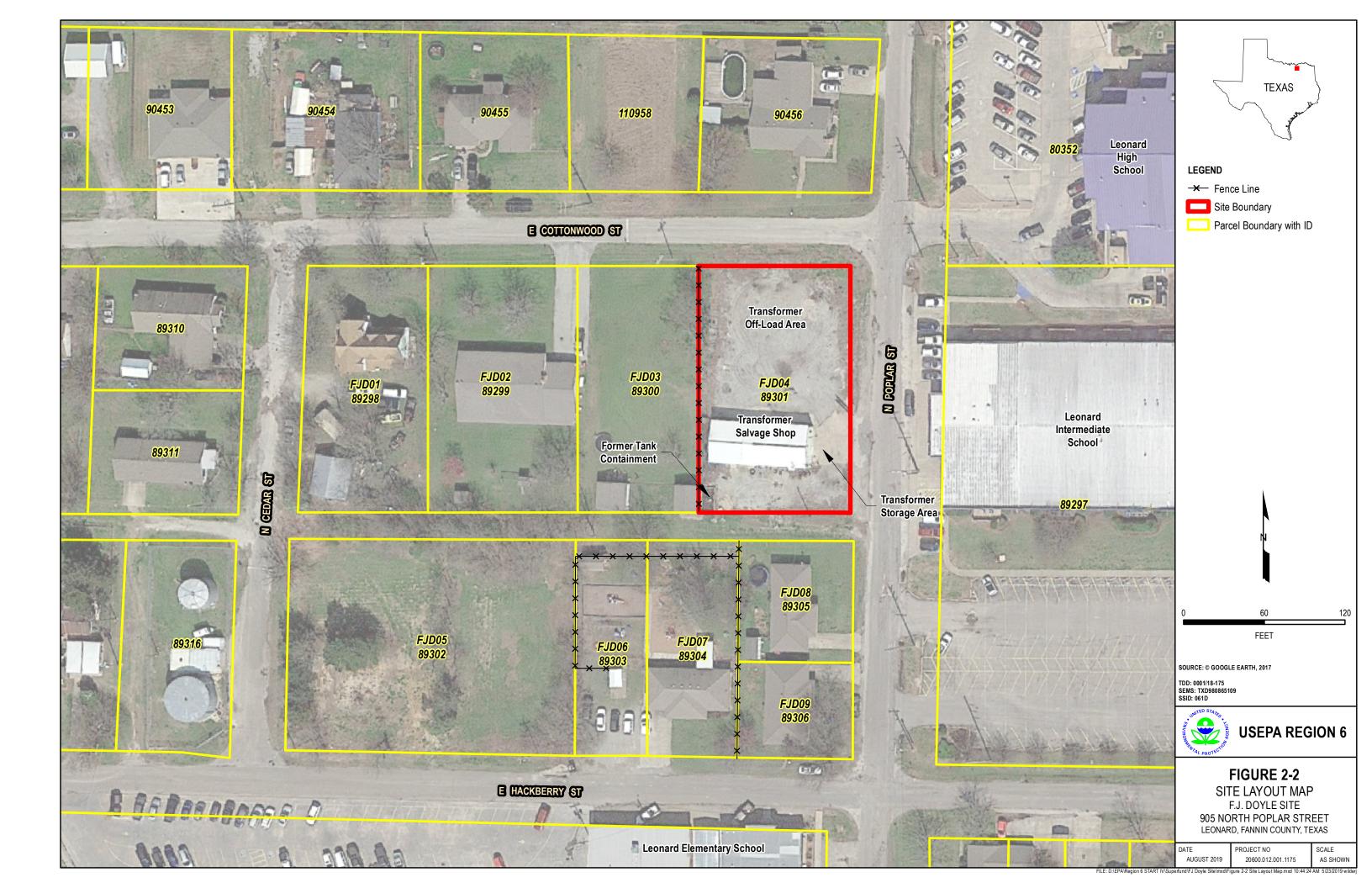
endor: WESTON SOLUTIONS, INC.		Solitate # .	
Project Officer: Will LaBombard		Branch Mail Code:	
		Phone Number: 214-665-7199	
(Signature)	(Date)	Fax Number :	
Contracting Officer Representative Gary I	Moore	Branch Mail Code :	
	ľ	Phone Number: 214-665-6609	
(Signature)	(Date)	Fax Number :	
Contract Specialist: Brian Delaney		Branch Mail Code :	
		Phone Number: 214-665-7473	
(Signature)	(Date)	Fax Number :	
Contracting Officer: Brian Delaney		Branch Mail Code :	
Electronically Signed by Brian Delane		Phone Number: 214-665-7473	
(Signature)	(Date)	Fax Number :	
Other Agency Official		Branch Mail Code :	
		Phone Number :	
(Signature)	(Date)	Fax Number :	

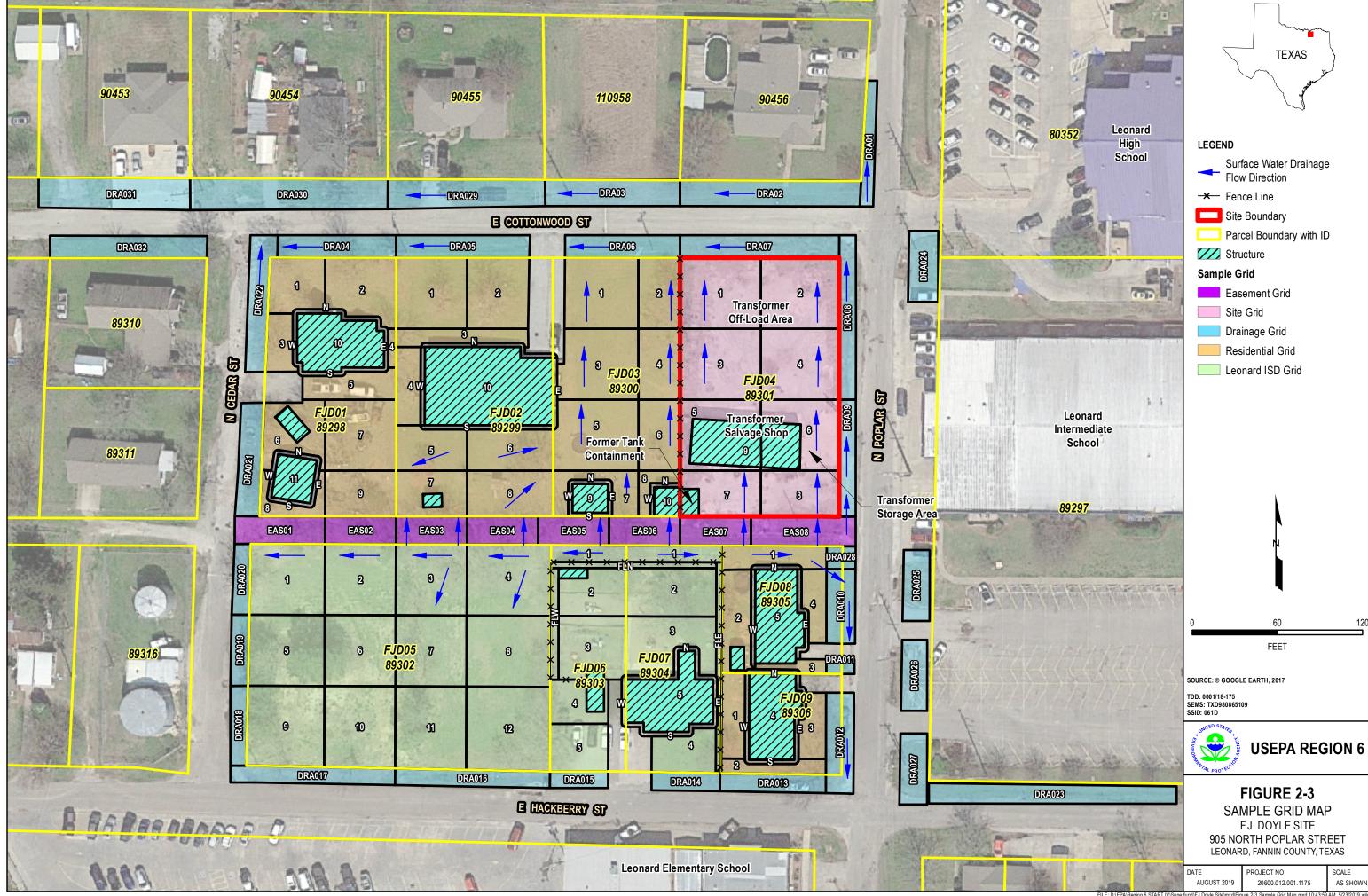
Provide Graphics/Charts

TDD#: 0001/18-175 U.S. EPA, Region 6 1445 Ross Avenue, Suite 1200 Amendment #: 003 Dallas, TX 75202-2733 Contract #: EP-S5-17-02 Vendor: WESTON SOLUTIONS, INC. Base ORIG - Provide - Removal Assistance As Described Description of Work: Amendment 003 - Increase the funding ceiling by \$10,000 (from \$215,000 to \$225,000) for completion of final work and removal report. Amendment 002 - Increase the funding ceiling by \$15,000 (from \$200,000 to \$215,000) for completion of final work and removal report. Amendment 001 - Increase the funding ceiling by \$15,000 (from \$185,000 to \$200,000) so that work can continue. Also, add OSC Nic Brescia as an alternate COR for the TDD. Base ORIG - The initial funding ceiling for this TDD is set at \$185,000. When available, all TDD costs shall be invoiced against theoldest 6A00E or 6A00S task order funding. The SSID for the site is 061D and shall be used on all forms, reports, emails, communications, and deliverables. The contractor shall: 1. Prepare a removal support workplan which shall include post excavation sampling, air monitoring, documentation (written, photo, video), and waste tracking (coordinated with ERRS contractor), with estimated detailed project costs; 2. Prepare HASP for removal support activities to be conducted and coordinated with the ERRS Contractor; 3. Providing technical assistance to the OSC as maybe requested; 4. Preparing draft documents (ie. fact sheets, polreps, tables, etc); 5. Participating in meetings with state and local officials and the public; 6. Preparing final report documenting cleanup activities conducted by the team; In addition, the contractor shall: Attend Public Meeting, Brief OSC, Compile Press Clippings, Conduct Air Monitoring, Conduct Multimedia Sampling, Coordinate Activities w/other Agencies (Fed, St, Loc), Coordinate w/Federal, State and Local Officials, Document On-Site Activities, Monitor Cleanup Activities, Notify OSC of Recommendation, Prepare Draft After Action Report, Prepare Draft PolRep, Prepare Fact Sheet, Prepare Graphics/Charts, Prepare Report, Prepare Safety Plan, Prepare Sampling Plan, Prepare Site Sketch/Map, Prepare START Work Plan, Prepare Transmittals, Provide Chronology of Events, Provide Photo Documentation, Provide Video Documentation, Take Representative Samples per OSC direction, Prepare Maps and Sketches, Provide Analytical Services,









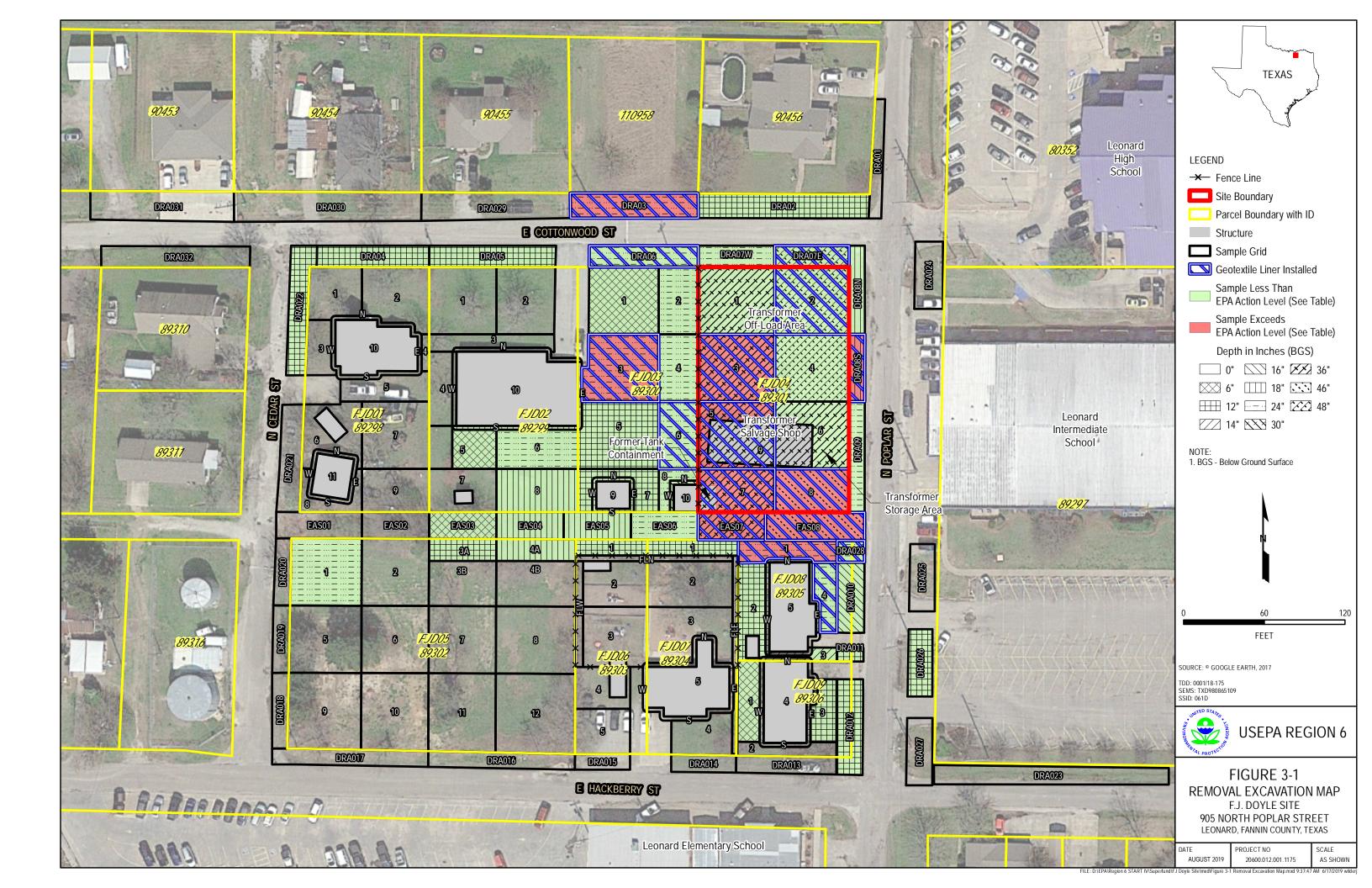


Table 3-1 **Soil Confirmation Sample Results** F.J. Doyle Salvage Removal Action **Leonard, Fannin County, Texas** 

				Station	DRA02	DRA022	DRA03	DRA03	DRA03	DRA04	DRA05	DRA06
			Site	Sample ID	DRA02-20190109-12-56	DRA022-20190114-12-56	DRA03-20190109-12-56	DRA03-20190109-12-57	DRA03-20190115-24-56	DRA04-20190201-12-56	DRA05-20190201-12-56	DRA06-20181115-12-56
			Specific	Depth	12"-12"	12"-12"	12"-12"	12"-12"	24"-24"	12"-12"	12"-12"	12"-12"
			Cleanup	Date	1/9/2019	1/14/2019	1/9/2019	1/9/2019	1/15/2019	2/1/2019	2/1/2019	11/15/2018
Analyte	CAS.NO	Units	Levels	Type	FS	FS	FS	FD	FS	FS	FS	FS
Aroclors												
Aroclor 1016	12674-11-2	mg/Kg	NP		0.0042 U	0.0042 U	0.0042 U	0.0042 U	0.0042 U	0.0042 U	0.0042 U	0.0042 U
Aroclor 1221	11104-28-2	mg/Kg	NP		0.0056 U	0.0056 U	0.0056 U	0.0056 U	0.0056 U	0.0056 U	0.0056 U	0.0056 U
Aroclor 1232	11141-16-5	mg/Kg	NP		0.0045 U	0.0045 U	0.0045 U	0.0045 U	0.0045 U	0.0045 U	0.0045 U	0.0045 U
Aroclor 1242	53469-21-9	mg/Kg	NP		0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U
Aroclor 1248	12672-29-6	mg/Kg	NP		0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U
Aroclor 1254	11097-69-1	mg/Kg	NP		0.0047 U	0.0047 U	0.0047 U	0.0047 U	0.0047 U	0.0047 U	0.0047 U	0.0047 U
Aroclor 1260	11096-82-5	mg/Kg	NP		0.038	0.033	30 JK	8.6 JK	4.3	0.1	0.041	0.004 U
Total PCBs	GCSV-07-1	mg/Kg	<1		0.038	0.033	30 JK	8.6 JK	4.3	0.1	0.041	0 U
Metals												
Arsenic	7440-38-2	mg/Kg	<20		8.73	4.91	8.85	8.39	5.37	3.42	18.8	21.3
Cobalt	7440-48-4	mg/Kg	<23		12.7	6.85	12.9	15	9.96	4.54	9.01	11.2
Copper	7440-50-8	mg/Kg	<3100		23	10.9	17.6	17	10.9	13.5	125	776
Lead	7439-92-1	mg/Kg	<400		25.4	55.7	24.3	22.1	12.9	6.49	61.4	79.9
Manganese	7439-96-5	mg/Kg	<1800		1660	1220	1830	2150	1410	932	1570	1370
SVOCs												
Benzo(a)anthracene	56-55-3	mg/Kg	<11		0.0022 JQ	0.0032 JQ	0.0016 U					
Benzo(a)pyrene	50-32-8	mg/Kg	<1.1		0.0022 JQ	0.0043 JQ	0.0015 JQ	0.0017 JQ	0.001 U	0.001 U	0.001 U	0.0021 JQ
Benzo(b)fluoranthene	205-99-2	mg/Kg	<11		0.0025 JQ	0.0051	0.0012 U	0.0031 JQ	0.0072	0.0012 U	0.0012 U	0.0029 JQ
Dibenz(a,h)anthracene	53-70-3	mg/Kg	<1.1		0.0016 U	0.0016 U	0.0016 U	0.0016 U	0.0016 U	0.0016 U	0.0016 U	0.0016 U
Indeno(1,2,3-cd)pyrene	193-39-5	mg/Kg	<11		0.0019 JQ	0.0032 JQ	0.0008 U	0.0013 JQ	0.0008 U	0.0008 U	0.0008 U	0.0021 JQ

Notes: FS - Field Sample FD - Field Duplicate H - High bias K - Unknown bias L - Low bias NA - Not analyzed / Not applicable

mg/Kg - milligrams per Kilogram. Q - Detected below the quantitation limit J - The identification of the analyte is acceptable; the reported value is an estimate

U - Analyte not detected

**Bold** -Value exceeds the detection limit for specific sample analyte **Highlighted value** exceeds the Site-Specific Cleanup Level

**USEPA REGION 6** 

				Station	DRA06	DRA06	DRA07E	DRA07E	DRA07W	DRA08N	DRA08S	DRA08S
			Site	Sample ID	DRA06-20181115-12-57	DRA06-20181205-24-56	DRA07E-20190213-48-56	DRA07E-20190213-48-57	DRA07W-20190201-24-56	DRA08N-20190213-18-56	DRA08S-20190205-18-56	DRA08S-20190205-18-57
			Specific	Depth	12"-12"	24"-24"	48"-48"	48"-48"	24"-24"	18"-18"	18"-18"	18"-18"
			Cleanup	Date	11/15/2018	12/5/2018	2/13/2019	2/13/2019	2/1/2019	2/13/2019	2/5/2019	2/5/2019
Analyte	CAS.NO	Units	Levels	Type	FD	FS	FS	FD	FS	FS	FS	FD
Aroclors												
Aroclor 1016	12674-11-2	mg/Kg	NP		0.0042 U	0.0042 U	0.0092 JQ	0.0042 U				
Aroclor 1221	11104-28-2	mg/Kg	NP		0.0056 U	0.0056 U	0.0056 U	0.0056 U	0.0056 U	0.0056 U	0.0056 U	0.0056 U
Aroclor 1232	11141-16-5	mg/Kg	NP		0.0045 U	0.0045 U	0.0045 U	0.0045 U	0.0045 U	0.0045 U	0.0045 U	0.0045 U
Aroclor 1242	53469-21-9	mg/Kg	NP		0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U
Aroclor 1248	12672-29-6	mg/Kg	NP		0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U
Aroclor 1254	11097-69-1	mg/Kg	NP		0.0047 U	0.0047 U	0.0047 U	0.0047 U	0.0047 U	0.0047 U	0.0047 U	0.0047 U
Aroclor 1260	11096-82-5	mg/Kg	NP		0.004 U	0.067	0.068	0.077	0.045	0.017 JQ	0.087	0.085
Total PCBs	GCSV-07-1	mg/Kg	<1		0 U	0.067	0.0772	0.079	0.045	0.018	0.087	0.085
Metals												
Arsenic	7440-38-2	mg/Kg	<20		17.4	7.69	5.93	5.01	3.46	5.64	5.75	5.49
Cobalt	7440-48-4	mg/Kg	<23		8.37	7.91	6.27	5.24	4.25	10.1	14.2	13.4
Copper	7440-50-8	mg/Kg	<3100		1240	18.7	8.95	6.85	10.7	24.5	20.1	19.6
Lead	7439-92-1	mg/Kg	<400		108	7.79	7.81	5.46	5.86	20	23.6	20.9
Manganese	7439-96-5	mg/Kg	<1800		1130	1110	1100	1160	1300	1070	2250	2110
SVOCs												
Benzo(a)anthracene	56-55-3	mg/Kg	<11		0.0016 U	0.049	0.0016 U					
Benzo(a)pyrene	50-32-8	mg/Kg	<1.1		0.001 U	0.06	0.001 U	0.001 U	0.001 U	0.001 U	0.0014 JQ	0.001 U
Benzo(b)fluoranthene	205-99-2	mg/Kg	<11		0.0012 U	0.078	0.0012 U	0.0012 U	0.0012 U	0.0012 U	0.0026 JQ	0.0012 U
Dibenz(a,h)anthracene	53-70-3	mg/Kg	<1.1		0.0016 U	0.011	0.0016 U					
Indeno(1,2,3-cd)pyrene	193-39-5	mg/Kg	<11		0.0008 U	0.053	0.0008 U					

Notes: FS - Field Sample FD - Field Duplicate H - High bias K - Unknown bias NA - Not analyzed / Not applicable L - Low bias

mg/Kg - milligrams per Kilogram. Q - Detected below the quantitation limit J - The identification of the analyte is acceptable; the reported value is an estimate

U - Analyte not detected

**Bold** -Value exceeds the detection limit for specific sample analyte **Highlighted value** exceeds the Site-Specific Cleanup Level

**USEPA REGION 6** 

				Station	DRA09	DRA10	DRA11	DRA12	DRA26	DRA28	DRA28	EAS03
			Site	Sample ID	DRA09-20190117-24-56	DRA010-20181203-16-56	DRA011-20181203-12-56	DRA012-20181204-12-56	DRA26-20190107-12-56	DRA028-20181212-16-56	DRA028-20181217-24-56	EAS03-20181115-06-56
			Specific	Depth	24"-24"	16"-16"	12"-12"	12"-12"	12"-12"	16"-16"	24"-24"	6"-6"
			Cleanup	Date	1/17/2019	12/3/2018	12/3/2018	12/4/2018	1/7/2019	12/12/2018	12/17/2018	11/15/2018
Analyte	CAS.NO	Units	Levels	Type	FS	FS	FS	FS	FS	FS	FS	FS
Aroclors												
Aroclor 1016	12674-11-2	mg/Kg	NP		0.0042 U	0.0042 U	0.0042 U	0.0042 U	0.0042 U	0.0042 U	0.0042 U	0.0042 U
Aroclor 1221	11104-28-2	mg/Kg	NP		0.0056 U	0.0056 U	0.0056 U	0.0056 U	0.0056 U	0.0056 U	0.0056 U	0.0056 U
Aroclor 1232	11141-16-5	mg/Kg	NP		0.0045 U	0.0045 U	0.0045 U	0.0045 U	0.0045 U	0.0045 U	0.0045 U	0.0045 U
Aroclor 1242	53469-21-9	mg/Kg	NP		0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U
Aroclor 1248	12672-29-6	mg/Kg	NP		0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U
Aroclor 1254	11097-69-1	mg/Kg	NP		0.0047 U	0.0047 U	0.0047 U	0.0047 U	0.0047 U	0.0047 U	0.0047 U	0.0047 U
Aroclor 1260	11096-82-5	mg/Kg	NP		0.045	0.8	0.58	0.004 U	0.029	0.42	0.039	0.047
Total PCBs	GCSV-07-1	mg/Kg	<1		0.045	0.8	0.58	0 U	0.029	0.42	0.039	0.047
Metals				_								
Arsenic	7440-38-2	mg/Kg	<20		5.94	9.48	18.9	7.01	7.15	6.71	6.69	8.62
Cobalt	7440-48-4	mg/Kg	<23		11.7	13.3 JL	12.5 JL	12.2	8.96	16.1	12.9	7.45
Copper	7440-50-8	mg/Kg	<3100		22.5	97.2	193	35.4 B	46.8	50.1	35.5	68.7
Lead	7439-92-1	mg/Kg	<400		19	35.5	36.1	33.8	28.6	31.8	25.8 JH	64.2
Manganese	7439-96-5	mg/Kg	<1800		835	1240	1190	1180	950	2480	1280 JK	1290
SVOCs												
Benzo(a)anthracene	56-55-3	mg/Kg	<11		0.0016 U	0.033	0.13	0.056	0.12	0.0052	0.0075	0.0055
Benzo(a)pyrene	50-32-8	mg/Kg	<1.1		0.0019 JQ	0.046	0.18	0.057	0.19	0.0077	0.0062	0.0055
Benzo(b)fluoranthene	205-99-2	mg/Kg	<11		0.0022 JQ	0.094	0.39	0.091	0.3	0.014	0.0099 JH	0.0088
Dibenz(a,h)anthracene	53-70-3	mg/Kg	<1.1		0.0016 U	0.013	0.037	0.0094	0.035	0.0042 JQ	0.0024 JQ	0.0077
Indeno(1,2,3-cd)pyrene	193-39-5	mg/Kg	<11		0.0008 U	0.06	0.19	0.041	0.18	0.0083	0.0056	0.0085

Notes:

FS - Field Sample FD - Field Duplicate H - High bias K - Unknown bias NA - Not analyzed / Not applicable L - Low bias

mg/Kg - milligrams per Kilogram. Q - Detected below the quantitation limi

J - The identification of the analyte is acceptable; the reported value is an estimate

U - Analyte not detected

**Bold** -Value exceeds the detection limit for specific sample analyte **Highlighted value** exceeds the Site-Specific Cleanup Level

**USEPA REGION 6** 

				Station	EAS04	EAS04	EAS05	EAS05	EAS06	EAS06	EAS07	EAS07
			Site	Sample ID	EAS04-20181119-12-56	EAS04-20181130-18-56	EAS05-20181119-12-56	EAS05-20181203-18-56	EAS06-20181217-24-56	EAS06-20181217-24-57	EAS07-20190107-36-56	EAS07-20190115-36-56
			Specific	Depth	12"-12"	18"-18"	12"-12"	18"-18"	24"-24"	24"-24"	36"-36"	36"-36"
			Cleanup	Date	11/19/2018	11/30/2018	11/19/2018	12/3/2018	12/17/2018	12/17/2018	1/7/2019	1/15/2019
Analyte	CAS.NO	Units	Levels	Type	FS	FS	FS	FS	FS	FD	FS	FS
Aroclors												
Aroclor 1016	12674-11-2	mg/Kg	NP		0.0042 U							
Aroclor 1221	11104-28-2	mg/Kg	NP		0.0056 U							
Aroclor 1232	11141-16-5	mg/Kg	NP		0.0045 U							
Aroclor 1242	53469-21-9	mg/Kg	NP		0.0059 U							
Aroclor 1248	12672-29-6	mg/Kg	NP		0.0059 U							
Aroclor 1254	11097-69-1	mg/Kg	NP		0.0047 U							
Aroclor 1260	11096-82-5	mg/Kg	NP		2.9	0.079	0.71	0.051	0.0089 JQ	0.045	9.3	4.8
Total PCBs	GCSV-07-1	mg/Kg	<1		2.9	0.079	0.71	0.051	0.0089	0.045	9.3	4.8
Metals												
Arsenic	7440-38-2	mg/Kg	<20		8.9	7.52	10	5.89	4.84	4.61	6.07	5.09
Cobalt	7440-48-4	mg/Kg	<23		10.2	7.3 JL	11.7	7.07 JL	7.03	7.39	25.5	9.33
Copper	7440-50-8	mg/Kg	<3100		265	19.3	95.5	16.8	11.3	12.9	50.6	24.8
Lead	7439-92-1	mg/Kg	<400		31.7 JL	10.9 JL	35.7 JL	12.9	13.2 JH	12.7 JH	25.3	17.7
Manganese	7439-96-5	mg/Kg	<1800		2030	1190	2220	1080	434 JK	1510 JK	5920	1140
SVOCs												
Benzo(a)anthracene	56-55-3	mg/Kg	<11		0.0016 U	0.0031 JQ	0.0029 JQ	0.0048	0.0016 U	0.011	0.003 JQ	0.0044
Benzo(a)pyrene	50-32-8	mg/Kg	<1.1		0.001 U	0.002 JQ	0.0029 JQ	0.0033 JQ	0.001 U	0.0057	0.003 JQ	0.0039 JQ
Benzo(b)fluoranthene	205-99-2	mg/Kg	<11		0.0023 JQ	0.0033 JQ	0.004 JQ	0.0058	0.0019 JQK	0.017 JK	0.0034 JQ	0.0057
Dibenz(a,h)anthracene	53-70-3	mg/Kg	<1.1		0.0016 U	0.0016 U	0.0025 JQ	0.0016 U	0.0016 U	0.0022 JQ	0.0016 U	0.0016 U
Indeno(1,2,3-cd)pyrene	193-39-5	mg/Kg	<11		0.0008 U	0.0019 JQ	0.0036 JQ	0.0018 JQ	0.0008 U	0.0066	0.0024 JQ	0.0025 JQ

Notes: FS - Field Sample FD - Field Duplicate H - High bias K - Unknown bias NA - Not analyzed / Not applicable L - Low bias

mg/Kg - milligrams per Kilogram. Q - Detected below the quantitation limit

J - The identification of the analyte is acceptable; the reported value is an estimate

U - Analyte not detected

**Bold** -Value exceeds the detection limit for specific sample analyte **Highlighted value** exceeds the Site-Specific Cleanup Level



				Station	EAS08	EAS08	FJD02-05B	FJD02-06	FJD02-06	FJD02-06	FJD02-08	FJD02-08
			Site	Sample ID	EAS08-20190107-36-56	EAS08-20190114-46-56	FJD02-05B-20181115-06-56	FJD02-06-20181115-06-56	FJD02-06-20181128-12-56	FJD02-06-20181203-24-56	FJD02-08-20181119-12-56	FJD02-08-20181130-18-56
			Specific	Depth	36"-36"	46"-46"	6"-6"	6"-6"	12"-12"	24"-24"	12"-12"	18"-18"
			Cleanup	Date	1/7/2019	1/14/2019	11/15/2018	11/15/2018	11/28/2018	12/3/2018	11/19/2018	11/30/2018
Analyte	CAS.NO	Units	Levels	Type	FS	FS	FS	FS	FS	FS	FS	FS
Aroclors												
Aroclor 1016	12674-11-2	mg/Kg	NP		0.0042 U	0.0042 U	0.0042 U	0.0042 U	0.0042 U	0.0042 U	0.0042 U	0.0042 U
Aroclor 1221	11104-28-2	mg/Kg	NP		0.0056 U	0.0056 U	0.0056 U	0.0056 U	0.0056 U	0.0056 U	0.0056 U	0.0056 U
Aroclor 1232	11141-16-5	mg/Kg	NP		0.0045 U	0.0045 U	0.0045 U	0.0045 U	0.0045 U	0.0045 U	0.0045 U	0.0045 U
Aroclor 1242	53469-21-9	mg/Kg	NP		0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U
Aroclor 1248	12672-29-6	mg/Kg	NP		0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U
Aroclor 1254	11097-69-1	mg/Kg	NP		0.0047 U	0.0047 U	0.0047 U	0.0047 U	0.0047 U	0.0047 U	0.0047 U	0.0047 U
Aroclor 1260	11096-82-5	mg/Kg	NP		32	25	0.004 U	0.004 U	0.004 U	0.004 U	0.18	0.004 U
Total PCBs	GCSV-07-1	mg/Kg	<1		32	25	0 U	0 U	0 U	0 U	0.18	0 U
Metals				_								
Arsenic	7440-38-2	mg/Kg	<20		5.5	8.72	14.9	25.5	44.9	5.71	28.1	9.48
Cobalt	7440-48-4	mg/Kg	<23		11.2	17.6	7.83	11.1	12.2 JL	6.5 JL	6.6	5.62 JL
Copper	7440-50-8	mg/Kg	<3100		27.9	257	82.4	359	62.3	7.4	355	12.5
Lead	7439-92-1	mg/Kg	<400		15.5	28.9	15.7	31.4	17.8	7.41	21.2 JL	6.88 JL
Manganese	7439-96-5	mg/Kg	<1800		1850	2330	1100	1570	1900	718	1420	927
SVOCs												
Benzo(a)anthracene	56-55-3	mg/Kg	<11		0.0016 U	0.014	0.0024 JQ	0.0016 U	0.0087	0.0016 U	0.0028 JQ	0.0016 U
Benzo(a)pyrene	50-32-8	mg/Kg	<1.1		0.001 U	0.037	0.0023 JQ	0.001 U	0.0054	0.001 U	0.0029 JQ	0.001 U
Benzo(b)fluoranthene	205-99-2	mg/Kg	<11		0.0025 JQ	0.067	0.0037 JQ	0.0012 U	0.011	0.0012 U	0.008	0.0012 U
Dibenz(a,h)anthracene	53-70-3	mg/Kg	<1.1		0.0016 U	0.0092	0.0016 U	0.0016 U	0.0016 U	0.0016 U	0.0016 U	0.0016 U
Indeno(1,2,3-cd)pyrene	193-39-5	mg/Kg	<11		0.0012 JQ	0.04	0.0012 JQ	0.0008 U	0.0061	0.0008 U	0.0044	0.0008 U

Notes: FS - Field Sample FD - Field Duplicate H - High bias K - Unknown bias NA - Not analyzed / Not applicable L - Low bias

mg/Kg - milligrams per Kilogram. Q - Detected below the quantitation limit

J - The identification of the analyte is acceptable; the reported value is an estimate

U - Analyte not detected

**Bold** -Value exceeds the detection limit for specific sample analyte **Highlighted value** exceeds the Site-Specific Cleanup Level

**USEPA REGION 6** 

				Station	FJD02-10S	FJD02-10S	FJD03-01	FJD03-02	FJD03-03	FJD03-03	FJD03-03
			Site		10101100	FJD02-10S-20181128-18-56	102000			102000	
			Specific	Depth	12"-12"	18"-18"	6"-6"	24"-24"	6"-6"	12"-12"	24"-24"
			Cleanup	Date	11/15/2018	11/28/2018	11/15/2018	11/19/2018	11/15/2018	11/28/2018	12/3/2018
Analyte	CAS.NO	Units	Levels	Type	FS	FS	FS	FS	FS	FS	FS
Aroclors											
Aroclor 1016	12674-11-2	mg/Kg	NP		0.0042 U	0.0042 U	0.0042 U	0.0042 U	0.0042 U	0.0042 U	0.0042 U
Aroclor 1221	11104-28-2	mg/Kg	NP		0.0056 U	0.0056 U	0.0056 U	0.0056 U	0.0056 U	0.0056 U	0.0056 U
Aroclor 1232	11141-16-5	mg/Kg	NP		0.0045 U	0.0045 U	0.0045 U	0.0045 U	0.0045 U	0.0045 U	0.0045 U
Aroclor 1242	53469-21-9	mg/Kg	NP		0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U
Aroclor 1248	12672-29-6	mg/Kg	NP		0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U
Aroclor 1254	11097-69-1	mg/Kg	NP		0.0047 U	0.0047 U	0.0047 U	0.0047 U	0.0047 U	0.0047 U	0.0047 U
Aroclor 1260	11096-82-5	mg/Kg	NP		0.004 U	0.004 U	0.043	0.004 U	0.12	0.004 U	0.004 U
Total PCBs	GCSV-07-1	mg/Kg	<1		0 U	0 U	0.043	0 U	0.12	0 U	0 U
Metals											
Arsenic	7440-38-2	mg/Kg	<20		50.9	9.31	13.2	3.54	29.8	11.3	7.45
Cobalt	7440-48-4	mg/Kg	<23		12	12.2 JJL	12.3	4.08	13.7	15.3 JL	21.6 JL
Copper	7440-50-8	mg/Kg	<3100		29.6	24	129	4.53	471	69.5	13.6
Lead	7439-92-1	mg/Kg	<400		19.3	15.8	54.2	3.83 JL	50	27.1	16.6
Manganese	7439-96-5	mg/Kg	<1800		1520	1450	1720	1330	1970	2020	3540
SVOCs											
Benzo(a)anthracene	56-55-3	mg/Kg	<11		0.0016 U	0.013	0.0016 U	0.0016 U	0.0016 U	0.0046	0.0042
Benzo(a)pyrene	50-32-8	mg/Kg	<1.1		0.001 U	0.014	0.0013 JQ	0.001 U	0.0018 JQ	0.005	0.006
Benzo(b)fluoranthene	205-99-2	mg/Kg	<11		0.0012 U	0.018	0.0022 JQ	0.0012 U	0.0019 JQ	0.011	0.0094
Dibenz(a,h)anthracene	53-70-3	mg/Kg	<1.1		0.0016 U	0.0041	0.0016 U	0.0016 U	0.0016 U	0.0028 JQ	0.013
Indeno(1,2,3-cd)pyrene	193-39-5	mg/Kg	<11		0.0008 U	0.015	0.0016 JQ	0.0008 U	0.0014 JQ	0.0043	0.013

Notes: FS - Field Sample FD - Field Duplicate H - High bias K - Unknown bias L - Low bias NA - Not analyzed / Not applicable

mg/Kg - milligrams per Kilogram. Q - Detected below the quantitation limit J - The identification of the analyte is acceptable; the reported value is an estimate

U - Analyte not detected

**Bold** -Value exceeds the detection limit for specific sample analyte **Highlighted value** exceeds the Site-Specific Cleanup Level

**USEPA REGION 6** 

				Station	FJD03-04	FJD03-05	FJD03-05	FJD03-06	FJD03-07	FJD03-07	FJD03-07	FJD03-07
			Site	Sample ID				FJD03-06-20181219-24-56				FJD03-07-20181128-12-57
			Specific	Depth	24"-24"	6"-6"	12"-12"	24"-24"	6"-6"	6"-6"	12"-12"	12"-12"
			Cleanup	Date	11/19/2018	11/19/2018	11/28/2018	12/19/2018	11/19/2018	11/19/2018	11/28/2018	11/28/2018
Analyte	CAS.NO	Units	Levels	Type	FS	FS	FS	FS	FS	FD	FS	FD
Aroclors												
Aroclor 1016	12674-11-2	mg/Kg	NP		0.0042 U	0.0042 U	0.0042 U	0.0042 U	0.0042 U	0.0042 U	0.0042 U	0.0042 U
Aroclor 1221	11104-28-2	mg/Kg	NP		0.0056 U	0.0056 U	0.0056 U	0.0056 U	0.0056 U	0.0056 U	0.0056 U	0.0056 U
Aroclor 1232	11141-16-5	mg/Kg	NP		0.0045 U	0.0045 U	0.0045 U	0.0045 U	0.0045 U	0.0045 U	0.0045 U	0.0045 U
Aroclor 1242	53469-21-9	mg/Kg	NP		0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U
Aroclor 1248	12672-29-6	mg/Kg	NP		0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U
Aroclor 1254	11097-69-1	mg/Kg	NP		0.0047 U	0.0047 U	0.0047 U	0.0047 U	0.0047 U	0.0047 U	0.0047 U	0.0047 U
Aroclor 1260	11096-82-5	mg/Kg	NP		0.004 U	0.45	0.004 U	0.072	5	20	0.024	0.004 U
Total PCBs	GCSV-07-1	mg/Kg	<1		0 U	0.45	0 U	0.072	5	20	0.024	0 U
Metals				_								
Arsenic	7440-38-2	mg/Kg	<20		5.12	10.1	7.2	4.49	8.69	10.3	10	6.59
Cobalt	7440-48-4	mg/Kg	<23		5.34	10.8	11.7 JL	7.52	6.12	7.63	9.14 JL	7.33 JL
Copper	7440-50-8	mg/Kg	<3100		9.49	106	31.8	9.27	2880	3180	2500	2490
Lead	7439-92-1	mg/Kg	<400		7.62 JL	21.7 JL	15.4	10	78.1 JL	96.4 JL	51.7	47.9
Manganese	7439-96-5	mg/Kg	<1800		1160	1960	1620	985	1120	1300	1020	1030
SVOCs												
Benzo(a)anthracene	56-55-3	mg/Kg	<11		0.0016 U	0.0016 U	0.002 JQ	0.0016 U	0.0016 U	0.0034 JQ	0.002 JQ	0.0039 JQ
Benzo(a)pyrene	50-32-8	mg/Kg	<1.1		0.001 U	0.0014 JQ	0.0017 JQ	0.001 U	0.0016 JQ	0.0038 JQ	0.001 U	0.0023 JQ
Benzo(b)fluoranthene	205-99-2	mg/Kg	<11		0.0012 U	0.0018 JQ	0.0022 JQ	0.0012 U	0.0029 JQ	0.0055	0.0012 U	0.0019 JQ
Dibenz(a,h)anthracene	53-70-3	mg/Kg	<1.1		0.0016 U	0.0016 U	0.0016 U	0.0016 U	0.0016 U	0.0016 U	0.0016 U	0.0016 U
Indeno(1,2,3-cd)pyrene	193-39-5	mg/Kg	<11		0.0018 JQ	0.0011 JQ	0.0008 U	0.0008 U	0.0011 JQ	0.0032 JQ	0.0008 U	0.0008 U

Notes:

FS - Field Sample FD - Field Duplicate H - High bias K - Unknown bias NA - Not analyzed / Not applicable L - Low bias

mg/Kg - milligrams per Kilogram. Q - Detected below the quantitation limit

J - The identification of the analyte is acceptable; the reported value is an estimate

U - Analyte not detected

**Bold** -Value exceeds the detection limit for specific sample analyte **Highlighted value** exceeds the Site-Specific Cleanup Level

**USEPA REGION 6** 

Table 3-1 **Soil Confirmation Sample Results** F.J. Doyle Salvage Removal Action **Leonard, Fannin County, Texas** 

				Station	FJD03-08	FJD03-09NSEW	FJD03-09NSEW	FJD03-10NW	FJD03-10NW	FJD04-01	FJD04-02
			Site	Sample ID FJ	D03-08-20181119-24-56	FJD03-09NSEW-20181120-06-56	FJD03-09NSEW-20181128-12-56	FJD03-10NW-20181120-24-56	FJD03-10NW-20181128-30-56	FJD04-01-20190201-36-56	FJD04-02-20190213-48-56
			Specific	Depth	24"-24"	6"-6"	12"-12"	24"-24"	30"-30"	36"-36"	48"-48"
			Cleanup	Date	11/19/2018	11/20/2018	11/28/2018	11/20/2018	11/28/2018	2/1/2019	2/13/2019
Analyte	CAS.NO	Units	Levels	Type	FS	FS	FS	FS	FS	FS	FS
Aroclors											
Aroclor 1016	12674-11-2	mg/Kg	NP		0.0042 U	0.0042 U	0.0042 U	0.0042 U	0.0042 U	0.0042 U	0.0042 U
Aroclor 1221	11104-28-2	mg/Kg	NP		0.0056 U	0.0056 U	0.0056 U	0.0056 U	0.0056 U	0.0056 U	0.0056 U
Aroclor 1232	11141-16-5	mg/Kg	NP		0.0045 U	0.0045 U	0.0045 U	0.0045 U	0.0045 U	0.0045 U	0.0045 U
Aroclor 1242	53469-21-9	mg/Kg	NP		0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.067	0.0059 U
Aroclor 1248	12672-29-6	mg/Kg	NP		0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U
Aroclor 1254	11097-69-1	mg/Kg	NP		0.0047 U	0.0047 U	0.0047 U	0.0047 U	0.0047 U	0.0047 U	0.0047 U
Aroclor 1260	11096-82-5	mg/Kg	NP		0.72 JH	1.7	0.004 U	29 JK	0.004 U	0.12	0.21
Total PCBs	GCSV-07-1	mg/Kg	<1		0.72	1.7	0 U	29	0 U	0.187	0.22
Metals											
Arsenic	7440-38-2	mg/Kg	<20		4.24	11.1	7.06	10.7	3.51	4.63	4.08
Cobalt	7440-48-4	mg/Kg	<23		4.16	7.04	7.23 JL	22.8	8.49 JL	7.07	6.12
Copper	7440-50-8	mg/Kg	<3100		49.5	421	2050 E	638	30.1	116	27.4
Lead	7439-92-1	mg/Kg	<400		8.5 JL	22	40	130	6.03	14.4	6.8
Manganese	7439-96-5	mg/Kg	<1800		841	965	939	2970	1230	1150	1310
SVOCs											
Benzo(a)anthracene	56-55-3	mg/Kg	<11		0.0016 U	0.0016 U	0.0037 JQ	0.0016 U	0.0016 U	0.0016 U	0.0016 U
Benzo(a)pyrene	50-32-8	mg/Kg	<1.1		0.001 U	0.0038 JQ	0.001 U	0.0017 JQ	0.001 U	0.001 U	0.0016 JQ
Benzo(b)fluoranthene	205-99-2	mg/Kg	<11		0.0018 JQ	0.0031 JQ	0.0012 U	0.0032 JQ	0.0012 U	0.0024 JQ	0.0023 JQ
Dibenz(a,h)anthracene	53-70-3	mg/Kg	<1.1		0.0016 U	0.0016 U	0.0016 U	0.0016 U	0.0016 U	0.0016 U	0.0016 U
Indeno(1,2,3-cd)pyrene	193-39-5	mg/Kg	<11		0.0014 JQ	0.0008 U	0.0008 U	0.0011 JQ	0.0008 U	0.0008 U	0.0017 JQ

Notes: FS - Field Sample FD - Field Duplicate H - High bias K - Unknown bias NA - Not analyzed / Not applicable L - Low bias

mg/Kg - milligrams per Kilogram. Q - Detected below the quantitation J - The identification of the analyte is acceptable; the reported value is an estimate Q - Detected below the quantitation limit

U - Analyte not detected

**Bold** -Value exceeds the detection limit for specific sample analyte **Highlighted value** exceeds the Site-Specific Cleanup Level



				Station	FJD04-03	FJD04-04	FJD04-05	FJD04-06	FJD04-07	FJD04-08	FJD05-01	FJD05-01
			Site	Sample ID	FJD04-03-20190128-36-56	FJD04-04-20190205-48-56	FJD04-05-20190122-36-56	FJD04-06-20190122-36-56	FJD04-07-20190107-36-56	FJD04-08-20190114-46-56	FJD05-01-20190110-06-56	FJD05-01-20190118-24-56
			Specific	Depth	36"-36"	48"-48"	36"-36"	36"-36"	36"-36"	46"-46"	6"-6"	24"-24"
			Cleanup	Date	1/28/2019	2/5/2019	1/22/2019	1/22/2019	1/7/2019	1/14/2019	1/10/2019	1/18/2019
Analyte	CAS.NO	Units	Levels	Type	FS							
Aroclors												
Aroclor 1016	12674-11-2	mg/Kg	NP		0.0042 U							
Aroclor 1221	11104-28-2	mg/Kg	NP		0.0056 U							
Aroclor 1232	11141-16-5	mg/Kg	NP		0.0045 U							
Aroclor 1242	53469-21-9	mg/Kg	NP		0.0059 U	0.0059 U	0.41	0.0059 U				
Aroclor 1248	12672-29-6	mg/Kg	NP		0.0059 U							
Aroclor 1254	11097-69-1	mg/Kg	NP		0.0047 U							
Aroclor 1260	11096-82-5	mg/Kg	NP		3.1	0.029	2.1	0.034	2.7	7.7	0.004 U	0.004 U
Total PCBs	GCSV-07-1	mg/Kg	<1		3.1	0.029	2.51	0.034	2.7	7.7	0 U	0 U
Metals												
Arsenic	7440-38-2	mg/Kg	<20		4.98	4.45	7.75	6.48	3.22	6.17	65.8	15.6
Cobalt	7440-48-4	mg/Kg	<23		5.89	7.81	25.3	6.31	4.87	9.99	6.49	5.26
Copper	7440-50-8	mg/Kg	<3100		33.4 B	66.1	8.37	8.17	26.6	59.9	10.5	7.59
Lead	7439-92-1	mg/Kg	<400		11.8	12.4	8	6.71	7.42	17.1	27.8	7.19
Manganese	7439-96-5	mg/Kg	<1800		914	1070	841	1380	990	1480	1110	986
SVOCs												
Benzo(a)anthracene	56-55-3	mg/Kg	<11		0.0016 U	0.0016 U	0.0016 U	0.0016 U	0.0025 JQ	0.0016 U	0.011	0.0016 U
Benzo(a)pyrene	50-32-8	mg/Kg	<1.1		0.001 U	0.001 U	0.001 U	0.001 U	0.0028 JQ	0.0014 JQ	0.013	0.001 U
Benzo(b)fluoranthene	205-99-2	mg/Kg	<11		0.0012 U	0.0012 U	0.0012 U	0.0012 U	0.0034 JQ	0.0026 JQ	0.024	0.0012 U
Dibenz(a,h)anthracene	53-70-3	mg/Kg	<1.1		0.0016 U	0.0041 JQ	0.0016 U					
Indeno(1,2,3-cd)pyrene	193-39-5	mg/Kg	<11		0.0008 U	0.0008 U	0.0008 U	0.0008 U	0.003 JQ	0.0021 JQ	0.016	0.0008 U

Notes:

FS - Field Sample H - High bias FD - Field Duplicate K - Unknown bias NA - Not analyzed / Not applicable L - Low bias

mg/Kg - milligrams per Kilogram. Q - Detected below the quantitation limit

J - The identification of the analyte is acceptable; the reported value is an estimate

U - Analyte not detected

**Bold** -Value exceeds the detection limit for specific sample analyte **Highlighted value** exceeds the Site-Specific Cleanup Level

**USEPA REGION 6** 

				Station	FJD05-03A	FJD05-03A	FJD05-04A	FJD05-04A	FJD06-01	FJD07-01	FJD08-01
			Site	Sample ID	FJD05-03A-20181115-06-56	FJD05-03A-20181130-12-56	FJD05-04A-05-20181119-06-56	FJD05-04A-20181130-18-56	FJD06-01-20181120-12-56	FJD07-01-20181128-12-56	FJD08-01-20181205-12-56
			Specific	Depth	6"-6"	12"-12"	6"-6"	18"-18"	12"-12"	12"-12"	12"-12"
			Cleanup	Date	11/15/2018	11/30/2018	11/19/2018	11/30/2018	11/20/2018	11/28/2018	12/5/2018
Analyte	CAS.NO	Units	Levels	Type	FS	FS	FS	FS	FS	FS	FS
Aroclors											
Aroclor 1016	12674-11-2	mg/Kg	NP		0.0042 U	0.0042 U	0.0042 U	0.0042 U	0.0042 U	0.0042 U	0.0042 U
Aroclor 1221	11104-28-2	mg/Kg	NP		0.0056 U	0.0056 U	0.0056 U	0.0056 U	0.0056 U	0.0056 U	0.0056 U
Aroclor 1232	11141-16-5	mg/Kg	NP		0.0045 U	0.0045 U	0.0045 U	0.0045 U	0.0045 U	0.0045 U	0.0045 U
Aroclor 1242	53469-21-9	mg/Kg	NP		0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U
Aroclor 1248	12672-29-6	mg/Kg	NP		0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U
Aroclor 1254	11097-69-1	mg/Kg	NP		0.0047 U	0.0047 U	0.0047 U	0.0047 U	0.0047 U	0.0047 U	0.0047 U
Aroclor 1260	11096-82-5	mg/Kg	NP		0.14	0.004 U	0.19	0.004 U	0.004 U	0.004 U	0.004 U
Total PCBs	GCSV-07-1	mg/Kg	<1		0.14	0 U	0.19	0 U	0 U	0 U	0 U
Metals				_							
Arsenic	7440-38-2	mg/Kg	<20		23.6	11.1	6.9	9.62	5.7	6.96	7.27
Cobalt	7440-48-4	mg/Kg	<23		7.35	5.93 JL	9.96	7.16 JL	12.3	15.1 JL	17.8
Copper	7440-50-8	mg/Kg	<3100		86	12.2	51.6	18.8	28.4	26.6	24
Lead	7439-92-1	mg/Kg	<400		73.4	35.5 JL	34.4 JL	17.8 JL	34.1	23.8	29
Manganese	7439-96-5	mg/Kg	<1800		1380	1100	2010	1080	1710	1590	2050
SVOCs											
Benzo(a)anthracene	56-55-3	mg/Kg	<11		0.0036 JQ	0.0027 JQ	0.0083	0.0016 U	0.0016 U	0.0016 U	0.028
Benzo(a)pyrene	50-32-8	mg/Kg	<1.1		0.0031 JQ	0.0026 JQ	0.0096	0.0014 JQ	0.001 U	0.0014 JQ	0.03
Benzo(b)fluoranthene	205-99-2	mg/Kg	<11		0.0053	0.0045	0.011	0.0026 JQ	0.0017 JQ	0.0023 JQ	0.044
Dibenz(a,h)anthracene	53-70-3	mg/Kg	<1.1		0.0016 U	0.0016 U	0.0016 U	0.0016 U	0.0016 U	0.0016 U	0.0068
Indeno(1,2,3-cd)pyrene	193-39-5	mg/Kg	<11		0.0051	0.0021 JQ	0.0066	0.0021 JQ	0.0013 JQ	0.0008 U	0.027

Notes: FS - Field Sample FD - Field Duplicate H - High bias K - Unknown bias L - Low bias NA - Not analyzed / Not applicable

mg/Kg - milligrams per Kilogram. Q - Detected below the quantitation limit J - The identification of the analyte is acceptable; the reported value is an estimate

U - Analyte not detected

**Bold** -Value exceeds the detection limit for specific sample analyte **Highlighted value** exceeds the Site-Specific Cleanup Level



				Station	FJD08-01	FJD08-02	FJD08-03	FJD08-04	FJD08-04	FJD08-04	FJD09-01	FJD09-03
			Site	Sample ID	FJD08-01-20181212-24-56	FJD08-02-20181130-12-56	FJD08-03-20181203-14-56	FJD08-04-20181203-14-56	FJD08-04-20181203-14-57	FJD08-04-20181212-24-56	FJD09-01-20181130-06-56	FJD09-03-20181204-12-56
			Specific	Depth	24"-24"	12"-12"	14"-14"	14"-14"	14"-14"	24"-24"	6"-6"	12"-12"
			Cleanup	Date	12/12/2018	11/30/2018	12/3/2018	12/3/2018	12/3/2018	12/12/2018	11/30/2018	12/4/2018
Analyte	CAS.NO	Units	Levels	Type	FS	FS	FS	FS	FD	FS	FS	FS
Aroclors												
Aroclor 1016	12674-11-2	mg/Kg	NP		0.0042 U							
Aroclor 1221	11104-28-2	mg/Kg	NP		0.0056 U							
Aroclor 1232	11141-16-5	mg/Kg	NP		0.0045 U							
Aroclor 1242	53469-21-9	mg/Kg	NP		0.0059 U							
Aroclor 1248	12672-29-6	mg/Kg	NP		0.0059 U							
Aroclor 1254	11097-69-1	mg/Kg	NP		0.0047 U							
Aroclor 1260	11096-82-5	mg/Kg	NP		0.021	0.004 U	0.024	0.32	0.52	0.04	0.004 U	0.56
Total PCBs	GCSV-07-1	mg/Kg	<1		0.021	0 U	0.024	0.32	0.52	0.04	0 U	0.56
Metals				_								
Arsenic	7440-38-2	mg/Kg	<20		6.88	7.3	8.41	9.87	9.31	5.83	7.13	6.49
Cobalt	7440-48-4	mg/Kg	<23		20.4	22.4 JL	13.5 JL	20.2 JL	14.3 JL	14.7	14.7 JL	12.7
Copper	7440-50-8	mg/Kg	<3100		16.1	19.1	22.6	31.5	2370	15.9	20.2	19.8 B
Lead	7439-92-1	mg/Kg	<400		22.9	33.8 JL	34.8	32.6	30.6	21.9	37 JL	23.3
Manganese	7439-96-5	mg/Kg	<1800		3070	1740	1120	2020	1480	1690	1540	1140
SVOCs												
Benzo(a)anthracene	56-55-3	mg/Kg	<11		0.0016 U	0.0024 JQ	0.0047	0.0046	0.0082	0.0016 U	0.0063	0.021
Benzo(a)pyrene	50-32-8	mg/Kg	<1.1		0.0015 JQ	0.0028 JQ	0.0059	0.0064	0.01	0.001 U	0.0066	0.03
Benzo(b)fluoranthene	205-99-2	mg/Kg	<11		0.0028 JQ	0.006	0.0095	0.012	0.022	0.0012 U	0.012	0.063
Dibenz(a,h)anthracene	53-70-3	mg/Kg	<1.1		0.0016 U	0.0036 JQ	0.0022 JQ	0.0016 U	0.0016 U	0.0016 U	0.0016 U	0.0091
Indeno(1,2,3-cd)pyrene	193-39-5	mg/Kg	<11		0.0014 JQ	0.0061	0.0052	0.0063	0.012	0.0008 U	0.0053	0.036

Notes:

FS - Field Sample H - High bias FD - Field Duplicate K - Unknown bias NA - Not analyzed / Not applicable L - Low bias

mg/Kg - milligrams per Kilogram. Q - Detected below the quantitation limit

J - The identification of the analyte is acceptable; the reported value is an estimate

U - Analyte not detected

**Bold** -Value exceeds the detection limit for specific sample analyte **Highlighted value** exceeds the Site-Specific Cleanup Level

**USEPA REGION 6** 

## Table 3-2 Backfill Soil Sample Results F.J. Doyle Salvage Removal Action Leonard, Fannin County, Texas

					Station	BKFL	BKFL	BKFL
			RSL	Cito	Sample ID	FJD-BKFL-	FJD-SLST-	FJD-TPSL-
			Summary 05/2018	Site Specific	Depth	6"-6"	20181114-51 6"-6"	6"-6"
			Resident	Cleanup	Date		11/14/2018	11/14/2018
Analyte	CAS.NO	Units	Soil	Levels	Type	FS	FS	FS
Aroclors		l ( l						
Aroclor 1016	12674-11-2	mg/Kg	4.1	NP		0.00483 U	0.00426 U	0.0042 U
Aroclor 1221 Aroclor 1232	11104-28-2 11141-16-5	mg/Kg mg/Kg	0.2	NP NP		0.00965 U 0.00617 U	0.00851 U 0.00544 U	0.0084 U 0.00537 U
Aroclor 1248	12672-29-6	mg/Kg	0.17	NP		0.00517 U	0.00344 U	0.00337 U 0.00448 U
Aroclor 1254	11097-69-1	mg/Kg	0.24	NP		0.00442 U	0.00389 U	0.00384 U
Aroclor 1260	11096-82-5	mg/Kg	0.24	NP		0.00722 U	0.00636 U	0.00628 U
Aroclor 1268	11100-14-4	mg/Kg	NP	NP		0.0058 U	0.00511 U	0.00504 U
Aroclor-1242	53469-21-9	mg/Kg	0.23	NP		0.00429 U	0.00378 U	0.00373 U
Aroclor-1262	37324-23-5	mg/Kg	NP	NP		0.00656 U	0.00578 U	0.00571 U
Total PCBs	GCSV-07-1	mg/Kg	NP	<1		0 U	0 U	0 U
COC-Metals Arsenic	7440-38-2	mg/Kg	0.68	<20		2.76	2.78	1.73
Cobalt	7440-38-2	mg/Kg	23	<23		9.27	3.97	4.93
Copper	7440-50-8	mg/Kg	3100	<3100		10.5	3.68	4.19
Lead	7439-92-1	mg/Kg	400	<400		10.6	6.17	7.19
Manganese	7439-96-5	mg/Kg	1800	<1800		340	253	296
COC-SVOCs								
Benzo(a)anthracene	56-55-3	mg/Kg	1.1	<11		0.00934 U	0.00829 U	0.00824 U
Benzo(a)pyrene	50-32-8	mg/Kg	0.11	<1.1		0.0133 U	0.0118 U	0.0117 U
Benzo(b)fluoranthene Dibenz(a,h)anthracene	205-99-2 53-70-3	mg/Kg	0.11	<11 <1.1		0.0169 U 0.0234 U	0.015 U 0.0208 U	0.0149 U 0.0207 U
Indeno(1,2,3-cd)pyrene	193-39-5	mg/Kg mg/Kg	1.1	<1.1		0.0234 U 0.0179 U	0.0208 U	0.0207 U
Herbicides	199 39 3	1116/116	1.1	<b>\11</b>		0.0173 0	0.0133 0	0.0136 0
2,4,5-T	93-76-5	mg/Kg	630	NP		0.00547 U	0.00482 U	0.00479 U
2,4,5-TP (Silvex)	93-72-1	mg/Kg	510	NP		0.00547 U	0.00482 U	0.00479 U
2,4'-D	94-75-7	mg/Kg	700	NP		0.00547 U	0.00482 U	0.00479 U
2,4-DB	94-82-6	mg/Kg	1900	NP		0.00547 U	0.00482 U	0.00479 U
Dalapon	75-99-0	mg/Kg	1900	NP		0.00547 U	0.00482 U	0.00479 U
Dicamba Dichlerence	1918-00-9	mg/Kg	1900	NP ND		0.00547 U	0.00482 U 0.00482 U	0.00479 U
Dichloroprop Dinoseb	120-36-5 88-85-7	mg/Kg mg/Kg	NP 63	NP NP		0.00547 U 0.00547 U	0.00482 U	0.00479 U 0.00479 U
MCPA	94-74-6	mg/Kg	32	NP		0.547 U	0.482 U	0.479 U
МСРР	93-65-2	mg/Kg	63	NP		0.547 U	0.482 U	0.479 U
Pentachlorophenol	87-86-5	mg/Kg	1	NP		0.00547 U	0.00482 U	0.00479 U
Metals								
Aluminum	7429-90-5	mg/Kg	77000	NP		13500	5800	5160
Antimony	7440-36-0	mg/Kg	31	NP		0.25 U	0.23 U	0.221 U
Barium	7440-39-3	mg/Kg	15000	NP ND		162	64.2	70.2
Beryllium Cadmium	7440-41-7 7440-43-9	mg/Kg mg/Kg	160 71	NP NP		<b>1.33</b> 0.125 U	<b>0.475</b> 0.115 U	<b>0.471</b> 0.111 U
Calcium	7440-43-3	mg/Kg	NP	NP		4470	1520	1110
Chromium	7440-47-3	mg/Kg	NP	NP		15.8	4.26	8.17
Iron	7439-89-6	mg/Kg	55000	NP		15200	5090	6580
Magnesium	7439-95-4	mg/Kg	NP	NP		3290	726	698
Mercury	7439-97-6	mg/Kg	11	NP		0.0063 U	0.0054 U	0.0061 J
Nickel	7440-02-0	mg/Kg	1500	NP		17.5	5.33	4.48
Potassium	7440-09-7	mg/Kg	NP	NP		1470	491	398
Selenium Silver	7782-49-2 7440-22-4	mg/Kg mg/Kg	390 390	NP NP		0.125 U 0.125 U	0.115 U 0.115 U	0.111 U 0.111 U
Sodium	7440-23-5	mg/Kg	NP	NP		333	412	86.9
Thallium	7440-28-0	mg/Kg	0.78	NP		0.137 J	0.115 U	0.111 U
Vanadium	7440-62-2	mg/Kg	390	NP		23.2	12.5	16.2
Zinc	7440-66-6	mg/Kg	23000	NP		31.3	7.9 J	12.4
Pesticides								
4,4'-DDD	72-54-8	mg/Kg	1.9	NP		0.000352 U	0.00031 U	0.000308 U
4,4'-DDE	72-55-9	mg/Kg	2	NP ND		0.000365 U	0.000321 U	0.000319 U
4,4'-DDT Aldrin	50-29-3 309-00-2	mg/Kg mg/Kg	1.9 0.039	NP NP		0.000443 U 0.000339 U	0.00039 U 0.000298 U	0.000388 U 0.000297 U
alpha-BHC	319-84-6	mg/Kg	0.039	NP NP		0.000339 U	0.000298 U	0.000297 U 0.000274 U
alpha-Chlordane	5103-71-9	mg/Kg	NP	NP		0.000313 U	0.000273 U	0.000274 U
beta-BHC	319-85-7	mg/Kg	0.3	NP		0.000443 U	0.00039 U	0.000388 U
delta-BHC	319-86-8	mg/Kg	NP	NP		0.000326 U	0.000287 U	0.000285 U
Dieldrin	60-57-1	mg/Kg	0.034	NP		0.000274 U	0.000241 U	0.00024 U
Endosulfan I	959-98-8	mg/Kg	NP	NP		0.0003 U	0.000264 U	0.000262 U
Endosulfan II	33213-65-9	mg/Kg	NP	NP		0.0003 U	0.000264 U	0.000262 U
Endosulfan sulfate	1031-07-8	mg/Kg	NP	NP		0.000339 U	0.000298 U	0.000297 U

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# Table 3-2 Backfill Soil Sample Results F.J. Doyle Salvage Removal Action Leonard, Fannin County, Texas

Part										
Name				DCI		Station		BKFL	BKFL TRS	
CAS.NO					Sita	Sample ID				
CAS-NO				-		Depth				
Transfer				_		Date	11/14/2018	11/14/2018	11/14/2018	
Endrin akthyde	-					Type				
Section Rectore										
Samma-shift (Indiane)   58-889-8   mg/Kg   NP   -   0.000131 U   0.000275 U   0.000276 U   leptachlor   76-448   mg/Kg   0.13   NP   -   0.0001313 U   0.000331 U   leptachlor   76-448   mg/Kg   0.13   NP   -   0.000131 U   0.000331 U   0.000331 U   leptachlor   77-445   mg/Kg   0.17   NP   -   0.000131 U   0.000331 U   0.000331 U   leptachlor   77-445   mg/Kg   0.07   NP   -   0.000130 U   0.00031 U   0.000331 U   leptachlor   77-445   mg/Kg   0.07   NP   -   0.000130 U   0.00031 U   0.0003 U	,	ł								
Spannac Chordane										
Heptachlor   76-44-8   mg/Kg	gamma-Chlordane									
Methoxychior	Heptachlor	76-44-8		0.13	NP		0.000378 U	0.000333 U	0.000331 U	
Toxophene	Heptachlor epoxide									
Semi-volatiles										
12.4.5 Testrachlorobenene	·	8001-35-2	mg/Kg	0.49	NP		0.00543 0	0.00479 0	0.00476 0	
1.4-Dioxane		95-94-3	mg/Kg	23	NP		0.0384 U	0.0341 U	0.0339 U	
2.4.5 Trichlorophenol					NP				0.0141 U	
2.4,6-Pinfrichlorophenol   120-83-2 mg/kg   49   NP   - 0.0215 U   0.0191 U   0.0189 U   2,4-Dimitrophenol   105-67-9 mg/kg   1300 NP   - 0.035 U   0.0488 U   0.0485 U   2,4-Dimitrophenol   105-67-9 mg/kg   1300 NP   - 0.0265 U   0.0248 U   0.0245 U   0.025 U   0.0245 U   0.025 U   0.0245 U   0.025 U	•									
2.4-Dinktorphenol   120-83-2   mg/Kg   190   NP	•									
2,4-Dintrophenol	•	ł								
2,4-Dinitrophenol										
2.4 Dinitrotoluene		ł								
2-Chloronaphthalene	•									
2-Chiorophenol   95-57-8 mg/kg   390 NP	,	606-20-2			NP		0.0142 U			
2-Methylnaphthalene										
2-Nitrophenol   88-74-4   mg/Kg   630   NP     0.0106 U   0.00943 U   0.00938 U	•									
2-Nitrophenol   88-75-5   mg/Kg   NP   NP     0.0174 U   0.0154 U   0.0153 U										
33-Dichlorobenzidine		ł								
46-Dinitro-2-methylphenol         534-52-1         mg/kg         5.1         NP         —         0.0488 U         0.0431 U         0.0186 U           4-Bromophenyl phenyl ether         101-55-3         mg/kg         NP         NP         —         0.0168 U         0.0148 U         0.0188 U         0.0188 U         0.0188 U         0.0188 U         0.0188 U         0.0188 U         0.0186 U           4-Chlorora-methylphenylether         106-67-8         mg/Kg         2.7         NP         —         0.0655 U         0.0577 U         0.0373 U           4-Nitroaniline         100-16-6         mg/Kg         NP         NP         —         0.0094 U         0.0082 U         0.0081 U         0.0080 U         0.0081 U         0.0087 U         0.0080 U         0.0087 U         0.0080 U         0.0080 U         0.0097 U         0.0080 U         0.0080 U         0.0010 U         0.0080 U         0.0097 U         0.0080 U         0.0080 U	3,3'-Dichlorobenzidine	91-94-1		1.2	NP		0.073 U	0.0647 U	0.0643 U	
4-Bromophenyl phenyl ether         101-55-3         mg/kg         NP         NP         —         0.0211 U         0.0188 U         0.0148 U         0.0057 U         0.0573 U         0.0054 U         0.0056 U         4.014 U         0.0051 U         0.0056 U         4.014 U         0.0056 U         4.014 U         0.0056 U         4.014 U         0.0056 U         4.014 U         0.0056 U         0.0057 U         0.0058 U         0.0057 U         0.0		ł								
4-Chloro-3-methylphenol         59-50-7         mg/kg         6300         NP         —         0.0168 U         0.0149 U         0.0148 U           4-Chlorophenyl-phenylether         106-47-8         mg/kg         2.7         NP         —         0.065 U         0.0577 U         0.0573 U           4-Chlorophenyl-phenylether         7005-72-3 mg/kg         NP         NP         —         0.0408 U         0.0362 U         0.0361 U           4-Nitrophenol         100-02-7 mg/kg         NP         NP         —         0.0408 U         0.0362 U         0.0361 U           A-ecraphthene         38-32-9 mg/kg         3600         NP         —         0.0361 U         0.0361 U         0.0362 U         0.0361 U           Acetophthene         208-96-8 mg/kg         Mg/kg         NP         NP         —         0.011 U         0.0097 U         0.0027 U         0.0207 U         0.02044 U         0.0252 U         0.025 U         0.0		ł								
4-Chloroaniline         106-47-8         mg/kg         2.7         NP         —         0.065 U         0.0577 U         0.0573 U           4-Chlorophenyl-phenylether         7005-72-3         mg/kg         NP         NP         —         0.00924 U         0.0081 U         0.0361 U         0.0362 U         0.0362 U         0.0362 U         0.0361 U         0.0362 U         0.0087 U         0.0089 U         0.0089 U         0.0087 U         0.0087 U         0.0087 U         0.0087 U         0.00252 U         0.0025 U         0.0026 U         0.0026 U										
4-Chlorophenyl-phenylether         7005-72-3         mg/kg         NP         NP          0.00924 U         0.0082 U         0.00814 U           4-Nitrophienol         100-01-6         mg/kg         27         NP          0.0408 U         0.036 U         0.036 U         0.036 U         0.036 U         0.036 U         0.0314 U         0.314 U         0.314 U         0.314 U         0.314 U         0.314 U         0.314 U         0.0080 U         0.0097 U         0.0025 U         0.0055 U         0.0080 U         0.0025 U         0.0025 U         0.0025 U         0.0026 U         0	, ' ·									
4-Nitrophenol         100-01-6         mg/kg         27         NP         -         0.0408 U         0.036 U         0.036 U           4-Nitrophenol         100-02-7         mg/kg         NP         NP         -         0.356 U         0.316 U         0.314 U         0.030 V         0.00802 U         0.00802 U         0.00802 U         0.00802 U         0.00802 U         0.00802 U         0.00807 U         0.00907 U         0.0097 U         0.0098 U         0.025 U         0.026 U         0.025 U         0.026 U		ł								
Acenaphthene	4-Nitroaniline	100-01-6		27	NP		0.0408 U	0.0362 U	0.036 U	
Acetophethylene         208-96-8         mg/Kg         NP         NP         —         0.011 U         0.0097 U         0.0097 U           Acetophenone         98-86-2         mg/Kg         7800         NP         —         0.0284 U         0.0252 U         0.025 U         0.025 U         0.0243 U         0.025 U         0.0244 U         0.0243 U         Atrazine (Aatrex)         1912-24-9         mg/Kg         2.4         NP         —         0.0293 U         0.026 U         0.0258 U         0.0258 U         0.0258 U         0.026 U         0.0258 U         0.0273 U         0.026 U         0.0238 U         0.026 U         0.0258 U         0.026 U         0.0258 U         0.026 U         0.0258 U         0.026 U         0.0273 U         0.026 U         0.0273 U         0.026 U         0.0273 U         0.026 U         0.0275 U         0.0476 U         0.0258 U         0.0295 U         0.0288 U         0.00991 U         0.0589 U         0.00991 U         0.00991 U         0.00991 U         0.00995 U         0.0189 U         0.01091 U         0.0394 U         0.0096 U         0.00991 U         0.0096 U         0.01091 U         0.01091 U <t< td=""><td>·</td><td>ł</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>	·	ł								
Acetophenone         98-86-2         mg/Kg         7800         NP          0.0284 U         0.0252 U         0.025 U           Anthracene         120-12-7         mg/Kg         18000         NP          0.0275 U         0.0244 U         0.0243 U           Artrazine (Aatrex)         1912-24-9         mg/Kg         170         NP          0.0253 U         0.026 U         0.0258 U           Benza(gh,i)perylene         1912-24-2         mg/Kg         170         NP          0.0102 U         0.00901 U         0.0895 U           Benzo(k)fluoranthene         1912-24-2         mg/Kg         NP         NP          0.0102 U         0.00901 U         0.00895 U           Benzo(k)fluoranthene         207-08-9         mg/Kg         11         NP          0.0102 U         0.00901 U         0.00895 U           Bis(2-Chloroethoxy)methane         111-91-1         mg/Kg         190         NP          0.0109 U         0.00962 U         0.00962 U         0.0026 U	•	ł								
Anthracene										
Atrazine (Aatrex)										
Benzaldehyde         100-52-7         mg/kg         170         NP          0.0537 U         0.0476 U         0.0473 U           Benzo(g,h,i)perylene         191-24-2         mg/kg         NP         NP          0.0102 U         0.00901 U         0.00895 U         0.00968 U         0.0039 U         0.0139 U         0.00962 U         0.0139 U         0.00968 U         0.00962 U         0.0167 U         0.00962 U         0.0167 U         0.00962 U         0.00962 U         0.00962 U         0.00962 U         0.0167 U         0.0167 U         0.0026 U         0.0026 U         0.0266 U         0.0166 U         0.0164 U         0.0144 U         0.0164 U         0.0144 U         0.0143 U         0.014 U         0.0143 U         0.0144 U         0.0143 U         0.0143 U         0.014 U         0.0143 U         0.014 U		ł								
Benzo(k)fluoranthene   207-08-9   mg/kg   11   NP     0.0157 U   0.0139 U   0.0139 U	Benzaldehyde	100-52-7		170	NP		0.0537 U	0.0476 U	0.0473 U	
Biphenyl   92-52-4   mg/kg   47   NP     0.0109 U   0.00968 U   0.00962 U	Benzo(g,h,i)perylene	ł								
Bis(2-Chloroethoxy)methane         111-91-1         mg/kg         190         NP          0.0272 U         0.0241 U         0.024 U           Bis(2-Chloroethyl)ether         111-44-4         mg/kg         0.23         NP          0.0302 U         0.0268 U         0.0266 U           Bis(2-Chloroisopropyl)ether         108-60-1         mg/kg         3100         NP          0.0188 U         0.0167 U         0.0166 U           Bis(2-Ethylhexyl)phthalate         117-81-7         mg/kg         39         NP          0.0162 U         0.0144 U         0.0143 U           Butyl benzyl phthalate         85-68-7         mg/kg         290         NP          0.0159 U         0.0141 U         0.0142 U         0.0224 U         0.0220 U         0.0288 U         0.0226 U         0.0294 U         0.0288 U         0.0204 U         0.0202 U         0.0142 U         0.0142 U         0.0142 U         0.0125 U         0.0142 U         0.0142 U										
Bis(2-Chloroethyl)ether   111-44-4   mg/kg   0.23   NP     0.0302 U   0.0268 U   0.0266 U	•									
Bis(2-Chloroisopropyl)ether         108-60-1         mg/kg         3100         NP          0.0188 U         0.0167 U         0.0166 U           Bis(2-Ethylhexyl)phthalate         117-81-7         mg/kg         39         NP          0.0162 U         0.0144 U         0.0143 U           Butyl benzyl phthalate         85-68-7         mg/kg         290         NP          0.0159 U         0.0141 U         0.0144 U           Carpolactam         105-60-2         mg/kg         31000         NP          0.0326 U         0.029 U         0.0288 U           Carbazole         86-74-8         mg/kg         NP         NP          0.023 U         0.0204 U         0.0202 U           Chrysene         218-01-9         mg/kg         NP         NP          0.0161 U         0.0143 U         0.0142 U           Dibenzofuran         132-64-9         mg/kg         73         NP          0.0142 U         0.0126 U         0.0125 U           Diethyl phthalate         84-66-2         mg/kg         51000         NP          0.038 U         0.0337 U         0.0335 U           Di-n-butyl phthalate         84-74-2         mg/kg         6300		ł								
Butyl benzyl phthalate         85-68-7         mg/kg         290         NP          0.0159 U         0.0141 U         0.014 U           Caprolactam         105-60-2         mg/kg         31000         NP          0.0326 U         0.029 U         0.0288 U           Carbazole         86-74-8         mg/kg         NP         NP          0.023 U         0.0204 U         0.0202 U           Chrysene         218-01-9         mg/kg         110         NP          0.0161 U         0.0143 U         0.0142 U           Dibenzofuran         132-64-9         mg/kg         73         NP          0.0142 U         0.0126 U         0.0125 U           Diethyl phthalate         84-66-2         mg/kg         51000         NP          0.038 U         0.0337 U         0.0335 U           Dimethyl phthalate         131-11-3         mg/kg         NP         NP          0.0106 U         0.00945 U         0.00939 U           Di-n-butyl phthalate         84-74-2         mg/kg         6300         NP          0.0106 U         0.00945 U         0.00256 U         0.0256 U         0.0256 U         0.0256 U         0.0256 U         0.0256 U         <		ł			NP					
Caprolactam         105-60-2         mg/kg         31000         NP          0.0326 U         0.029 U         0.0288 U           Carbazole         86-74-8         mg/kg         NP         NP          0.023 U         0.0204 U         0.0202 U           Chrysene         218-01-9         mg/kg         110         NP          0.0161 U         0.0143 U         0.0142 U           Dibenzofuran         132-64-9         mg/kg         73         NP          0.0142 U         0.0126 U         0.0125 U           Diethyl phthalate         84-66-2         mg/kg         51000         NP          0.038 U         0.0337 U         0.0335 U           Dimethyl phthalate         131-11-3         mg/kg         NP         NP          0.0106 U         0.00945 U         0.00939 U           Di-n-butyl phthalate         84-74-2         mg/kg         6300         NP          0.0106 U         0.00945 U         0.00939 U           Di-n-octyl phthalate         117-84-0         mg/kg         630         NP          0.0288 U         0.0256 U         0.0254 U           Pluoren         86-73-7         mg/kg         2400         NP										
Carbazole         86-74-8         mg/kg         NP         NP          0.023 U         0.0204 U         0.0202 U           Chrysene         218-01-9         mg/kg         110         NP          0.0161 U         0.0143 U         0.0142 U           Dibenzofuran         132-64-9         mg/kg         73         NP          0.0142 U         0.0126 U         0.0125 U           Diethyl phthalate         84-66-2         mg/kg         51000         NP          0.038 U         0.0337 U         0.0335 U           Dimethyl phthalate         131-11-3         mg/kg         NP         NP          0.0166 U         0.00945 U         0.00939 U           Di-n-butyl phthalate         84-74-2         mg/kg         6300         NP          0.0288 U         0.0256 U         0.0254 U           Di-n-octyl phthalate         117-84-0         mg/kg         6300         NP          0.0288 U         0.0256 U         0.0254 U           Di-n-octyl phthalate         117-84-0         mg/kg         630         NP          0.0288 U         0.0184 U         0.0183 U           Fluorene         86-73-7         mg/kg         2400         NP <td></td> <td>ł</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>		ł								
Chrysene         218-01-9         mg/kg         110         NP          0.0161 U         0.0143 U         0.0142 U           Dibenzofuran         132-64-9         mg/kg         73         NP          0.0142 U         0.0126 U         0.0125 U           Diethyl phthalate         84-66-2         mg/kg         51000         NP          0.038 U         0.0337 U         0.0335 U           Dimethyl phthalate         131-11-3         mg/kg         NP         NP          0.0106 U         0.00945 U         0.00939 U           Dimethyl phthalate         134-74-2         mg/kg         6300         NP          0.0288 U         0.0256 U         0.00945 U         0.00939 U           Di-n-octyl phthalate         117-84-0         mg/kg         6300         NP          0.0288 U         0.0256 U         0.00256 U         0.00256 U         0.0254 U           Di-n-octyl phthalate         117-84-0         mg/kg         6300         NP          0.0208 U         0.0184 U         0.0183 U           Fluoranthene         206-44-0         mg/kg         2400         NP          0.0115 U         0.0102 U         0.0102 U           Fluo	<u> </u>									
Dibenzofuran         132-64-9         mg/kg         73         NP          0.0142 U         0.0126 U         0.0125 U           Diethyl phthalate         84-66-2         mg/kg         51000         NP          0.038 U         0.0337 U         0.0335 U           Dimethyl phthalate         131-11-3         mg/kg         NP         NP          0.0106 U         0.00945 U         0.00939 U           Di-n-butyl phthalate         84-74-2         mg/kg         6300         NP          0.0288 U         0.0256 U         0.0254 U           Di-n-octyl phthalate         117-84-0         mg/kg         6300         NP          0.0208 U         0.0184 U         0.0183 U           Fluoranthene         206-44-0         mg/kg         2400         NP          0.0115 U         0.0102 U         0.0102 U           Fluorene         86-73-7         mg/kg         2400         NP          0.0114 U         0.0101 U         0.01 U           Hexachlorobenzene         118-74-1         mg/kg         0.21         NP          0.00866 U         0.00768 U         0.00768 U           Hexachlorobutadiene         87-68-3         mg/kg         1.8										
Diethyl phthalate         84-66-2         mg/Kg         51000         NP          0.038 U         0.0337 U         0.0335 U           Dimethyl phthalate         131-11-3         mg/Kg         NP         NP          0.0106 U         0.00945 U         0.00939 U           Di-n-butyl phthalate         84-74-2         mg/Kg         6300         NP          0.0288 U         0.0256 U         0.0254 U           Di-n-octyl phthalate         117-84-0         mg/Kg         630         NP          0.0208 U         0.0184 U         0.0183 U           Fluoranthene         206-44-0         mg/Kg         2400         NP          0.0115 U         0.0102 U         0.0102 U           Fluorene         86-73-7         mg/Kg         2400         NP          0.0114 U         0.0101 U         0.0102 U           Hexachlorobenzene         118-74-1         mg/Kg         0.21         NP          0.00866 U         0.00768 U         0.00763 U           Hexachlorobutadiene         87-68-3         mg/Kg         1.2         NP          0.0149 U         0.0132 U         0.0131 U           Hexachlorocyclopentadiene         77-47-4         mg/Kg	Dibenzofuran									
Di-n-butyl phthalate         84-74-2         mg/kg         6300         NP          0.0288 U         0.0256 U         0.0254 U           Di-n-octyl phthalate         117-84-0         mg/kg         630         NP          0.0208 U         0.0184 U         0.0183 U           Fluoranthene         206-44-0         mg/kg         2400         NP          0.0115 U         0.0102 U         0.0102 U           Fluorene         86-73-7         mg/kg         2400         NP          0.0114 U         0.0101 U         0.01 U           Hexachlorobenzene         118-74-1         mg/kg         0.21         NP          0.00866 U         0.00768 U         0.00763 U           Hexachlorobutadiene         87-68-3         mg/kg         1.2         NP          0.0149 U         0.0132 U         0.0131 U           Hexachlorocyclopentadiene         77-47-4         mg/kg         1.8         NP          0.0274 U         0.0243 U         0.0241 U           Hexachloroethane         67-72-1         mg/kg         1.8         NP          0.0144 U         0.0124 U         0.0123 U           Isophorone         78-59-1         mg/kg         570	Diethyl phthalate	ł		51000	NP				0.0335 U	
Di-n-octyl phthalate         117-84-0         mg/Kg         630         NP          0.0208 U         0.0184 U         0.0183 U           Fluoranthene         206-44-0         mg/Kg         2400         NP          0.0115 U         0.0102 U         0.0102 U           Fluorene         86-73-7         mg/Kg         2400         NP          0.0114 U         0.0101 U         0.01 U           Hexachlorobenzene         118-74-1         mg/Kg         0.21         NP          0.00866 U         0.00768 U         0.00763 U           Hexachlorobutadiene         87-68-3         mg/Kg         1.2         NP          0.0149 U         0.0132 U         0.0131 U           Hexachlorocyclopentadiene         77-47-4         mg/Kg         1.8         NP          0.0274 U         0.0243 U         0.0241 U           Hexachlorocyclopentadiene         67-72-1         mg/Kg         1.8         NP          0.014 U         0.0124 U         0.0243 U         0.0241 U           Hexachlorocyclopentadiene         78-59-1         mg/Kg         1.8         NP          0.014 U         0.0124 U         0.0123 U         0.0123 U           Isophorone										
Fluoranthene         206-44-0         mg/kg         2400         NP          0.0115 U         0.0102 U         0.0102 U           Fluorene         86-73-7         mg/kg         2400         NP          0.0114 U         0.0101 U         0.01 U           Hexachlorobenzene         118-74-1         mg/kg         0.21         NP          0.00866 U         0.00768 U         0.00763 U           Hexachlorobutadiene         87-68-3         mg/kg         1.2         NP          0.0149 U         0.0132 U         0.0131 U           Hexachlorocyclopentadiene         77-47-4         mg/kg         1.8         NP          0.0274 U         0.0243 U         0.0241 U           Hexachlorocethane         67-72-1         mg/kg         1.8         NP          0.014 U         0.0124 U         0.0123 U           Isophorone         78-59-1         mg/kg         570         NP          0.0144 U         0.0128 U         0.0127 U           Mp-Cresol         1319-77-3MP         mg/kg         NP         NP          0.0257 U         0.0228 U         0.0227 U           Naphthalene         98-95-3         mg/kg         5.1         NP										
Fluorene         86-73-7         mg/Kg         2400         NP          0.0114 U         0.0101 U         0.01 U           Hexachlorobenzene         118-74-1         mg/Kg         0.21         NP          0.00866 U         0.00768 U         0.00763 U           Hexachlorobutadiene         87-68-3         mg/Kg         1.2         NP          0.0149 U         0.0132 U         0.0131 U           Hexachlorocyclopentadiene         77-47-4         mg/Kg         1.8         NP          0.0274 U         0.0243 U         0.0241 U           Hexachloroethane         67-72-1         mg/Kg         1.8         NP          0.014 U         0.0124 U         0.0123 U           Isophorone         78-59-1         mg/Kg         570         NP          0.0144 U         0.0128 U         0.0127 U           m,p-Cresol         1319-77-3MP         mg/Kg         NP         NP          0.0257 U         0.0228 U         0.0227 U           Naphthalene         91-20-3         mg/Kg         3.8         NP          0.0116 U         0.0103 U         0.0179 U           Nitrobenzene         98-95-3         mg/Kg         5.1         NP										
Hexachlorobenzene         118-74-1         mg/Kg         0.21         NP          0.00866 U         0.00768 U         0.00763 U           Hexachlorobutadiene         87-68-3         mg/Kg         1.2         NP          0.0149 U         0.0132 U         0.0131 U           Hexachlorocyclopentadiene         77-47-4         mg/Kg         1.8         NP          0.0274 U         0.0243 U         0.0241 U           Hexachloroethane         67-72-1         mg/Kg         1.8         NP          0.014 U         0.0124 U         0.0123 U           Isophorone         78-59-1         mg/Kg         570         NP          0.0144 U         0.0128 U         0.0127 U           m,p-Cresol         1319-77-3MP         mg/Kg         NP         NP          0.0257 U         0.0228 U         0.0227 U           Naphthalene         91-20-3         mg/Kg         3.8         NP          0.0116 U         0.0103 U         0.0102 U           Nitrobenzene         98-95-3         mg/Kg         5.1         NP          0.0203 U         0.018 U         0.0179 U										
Hexachlorobutadiene         87-68-3         mg/Kg         1.2         NP          0.0149 U         0.0132 U         0.0131 U           Hexachlorocyclopentadiene         77-47-4         mg/Kg         1.8         NP          0.0274 U         0.0243 U         0.0241 U           Hexachloroethane         67-72-1         mg/Kg         1.8         NP          0.014 U         0.0124 U         0.0123 U           Isophorone         78-59-1         mg/Kg         570         NP          0.0144 U         0.0128 U         0.0127 U           m,p-Cresol         1319-77-3MP mg/Kg         NP         NP          0.0257 U         0.0228 U         0.0227 U           Naphthalene         91-20-3         mg/Kg         3.8         NP          0.0116 U         0.0103 U         0.0102 U           Nitrobenzene         98-95-3         mg/Kg         5.1         NP          0.0203 U         0.018 U         0.0179 U	Hexachlorobenzene									
Hexachloroethane         67-72-1         mg/Kg         1.8         NP          0.014 U         0.0124 U         0.0123 U           Isophorone         78-59-1         mg/Kg         570         NP          0.0144 U         0.0128 U         0.0127 U           m,p-Cresol         1319-77-3MP mg/Kg         NP         NP          0.0257 U         0.0228 U         0.0227 U           Naphthalene         91-20-3         mg/Kg         3.8         NP          0.0116 U         0.0103 U         0.0102 U           Nitrobenzene         98-95-3         mg/Kg         5.1         NP          0.0203 U         0.018 U         0.0179 U	Hexachlorobutadiene	ł								
Isophorone         78-59-1         mg/Kg         570         NP          0.0144 U         0.0128 U         0.0127 U           m,p-Cresol         1319-77-3MP mg/Kg         NP         NP          0.0257 U         0.0228 U         0.0227 U           Naphthalene         91-20-3 mg/Kg         3.8         NP          0.0116 U         0.0103 U         0.0102 U           Nitrobenzene         98-95-3 mg/Kg         5.1         NP          0.0203 U         0.018 U         0.0179 U	· ·									
m,p-Cresol         1319-77-3MP         mg/Kg         NP         NP          0.0257 U         0.0228 U         0.0227 U           Naphthalene         91-20-3         mg/Kg         3.8         NP          0.0116 U         0.0103 U         0.0102 U           Nitrobenzene         98-95-3         mg/Kg         5.1         NP          0.0203 U         0.018 U         0.0179 U		ł								
Naphthalene         91-20-3         mg/Kg         3.8         NP          0.0116 U         0.0103 U         0.0102 U           Nitrobenzene         98-95-3         mg/Kg         5.1         NP          0.0203 U         0.018 U         0.0179 U	· · · · · · · · · · · · · · · · · · ·	ł								
Nitrobenzene 98-95-3 mg/Kg 5.1 NP 0.0203 U 0.018 U 0.0179 U										
3, 3	Nitrobenzene									
	N-Nitroso-di-n-propylamine	ł								

2 of 3



### Table 3-2 **Backfill Soil Sample Results** F.J. Doyle Salvage Removal Action **Leonard, Fannin County, Texas**

					Station	BKFL	BKFL	BKFL
			RSL		Station	FJD-BKFL-	FJD-SLST-	FJD-TPSL-
			Summary	Site	Sample ID	20181114-51	20181114-51	20181114-51
			05/2018	Specific	Depth		6"-6"	6"-6"
			Resident	Cleanup		11/14/2018	11/14/2018	11/14/2018
Analyte	CAS.NO	Units	Soil	Levels	Type		FS	FS
n-Nitrosodiphenylamine	86-30-6	mg/Kg	110	NP	J F	0.0139 U	0.0124 U	0.0123 U
o-Cresol	95-48-7	mg/Kg	3200	NP		0.0223 U	0.0198 U	0.0196 U
Pentachlorophenol	87-86-5	mg/Kg	1	NP		0.047 U	0.0417 U	0.0414 U
Phenanthrene	85-01-8	mg/Kg	NP	NP		0.012 U	0.0106 U	0.0106 U
Phenol	108-95-2	mg/Kg	19000	NP		0.0246 U	0.0218 U	0.0216 U
Pyrene	129-00-0	mg/Kg	1800	NP		0.0108 U	0.00954 U	0.00948 U
Volatiles		<u> </u>						
1,1,1-Trichloroethane	71-55-6	mg/Kg	8100	NP		0.000294 U	0.000226 U	0.000254 U
1,1,2-Trichloroethane	79-00-5	mg/Kg	1.1	NP		0.000294 U	0.000226 U	0.000254 U
1,1-Dichloroethane	75-34-3	mg/Kg	3.6	NP		0.000294 U	0.000226 U	0.000254 U
1,1-Dichloroethene	75-35-4	mg/Kg	230	NP		0.000294 U	0.000226 U	0.000254 U
1,2-Dichloroethane	107-06-2	mg/Kg	0.46	NP		0.0019 J	0.000226 U	0.000254 U
1,2-Dichloroethane	108-10-1	mg/Kg	33000	NP		0.000294 U	0.000226 U	0.0137
1,2-Dichloropropane	78-87-5	mg/Kg	2.5	NP		0.000294 U	0.000226 U	0.000254 U
2-Butanone	78-93-3	mg/Kg	27000	NP		0.00456 J	0.000452 U	0.00857
Acetone	67-64-1	mg/Kg	61000	NP		0.0491	0.000452 U	0.0869
Benzene	71-43-2	mg/Kg	1.2	NP		0.00115 J	0.000226 U	0.00104 J
Bromochloromethane	74-97-5	mg/Kg	150	NP		0.000588 U	0.000452 U	0.000507 U
Bromodichloromethane	75-27-4	mg/Kg	0.29	NP		0.000322 J	0.000226 U	0.000254 U
Bromomethane	74-83-9	mg/Kg	6.8	NP		0.00422 J	0.000452 U	0.00245 J
Carbon disulfide	75-15-0	mg/Kg	770	NP		0.000723 J	0.000226 U	0.000254 U
Carbon tetrachloride	56-23-5	mg/Kg	0.65	NP		0.000294 U	0.000226 U	0.000254 U
Chloroethane	75-00-3	mg/Kg	14000	NP		0.000294 U	0.000226 U	0.000254 U
Chloroform	67-66-3	mg/Kg	0.32	NP		0.000294 U	0.000226 U	0.000254 U
Chloromethane	74-87-3	mg/Kg	110	NP		0.000588 U	0.000452 U	0.000507 U
Cis-1,2-Dichloroethene	156-59-2	mg/Kg	160	NP		0.000294 U	0.000226 U	0.000254 U
cis-1,3-Dichloropropene	10061-01-5	mg/Kg	NP	NP		0.000294 U	0.000226 U	0.000254 U
Cyclohexane	110-82-7	mg/Kg	6500	NP		0.000294 U	0.000226 U	0.000254 U
Dichlorodifluoromethane	75-71-8	mg/Kg	87	NP		0.000294 U	0.000226 U	0.000254 U
Methyl Acetate	79-20-9	mg/Kg	78000	NP		0.000588 U	0.000452 U	0.000507 U
Methylcyclohexane	108-87-2	mg/Kg	NP	NP		0.000294 U	0.000226 U	0.000254 U
Methylene chloride	75-09-2	mg/Kg	57	NP		0.059	0.0179	0.0298
tert-Butyl methyl ether (MTBE)	1634-04-4	mg/Kg	47	NP		0.000294 U	0.000226 U	0.000254 U
Tetrachloroethene	127-18-4	mg/Kg	24	NP		0.000588 U	0.000452 U	0.000507 U
Toluene	108-88-3	mg/Kg	4900	NP		0.000294 U	0.000226 U	0.000254 U
Trans-1,2-Dichloroethene	156-60-5	mg/Kg	1600	NP		0.000294 U	0.000226 U	0.000254 U
trans-1,3-Dichloropropene	10061-02-6	mg/Kg	NP	NP		0.000294 U	0.000226 U	0.000254 U
Trichloroethene	79-01-6	mg/Kg	0.94	NP		0.000294 U	0.000226 U	0.000254 U
Trichlorofluoromethane	75-69-4	mg/Kg	23000	NP		0.000294 U	0.000226 U	0.000254 U
Trichlorotrifluoroethane	76-13-1	mg/Kg	6700	NP		0.000588 U	0.000452 U	0.000507 U
Vinyl chloride	75-01-4	mg/Kg	0.059	NP		0.000294 U	0.000226 U	0.000254 U
Notes:								

- FS Field Sample
- FD Field Duplicate
- NA  $Not\ analyzed\ /Not\ applicable$
- NP Not published
- mg/Kg milligrams per Kilogram.
- H High bias
- J The identification of the analyte is acceptable; the reported value is an estimate
- K Unknown bias
- L Low bias
- Q Detected below the quantitation limit
- U Analyte not detected

Value exceeds the detection limit for specific sample analyte

Highlighted value exceeds the EPA Regional Screening Level (RSL) and/or Site-Specific Cleanup Level



Analyte	CAS.NO	Units	TCEQ PCL Comparison Values	Station Sample ID Depth Date Type	EAS07 EAS07-20190107-36-56 36"-36" 1/7/2019 FS	EAS07 EAS07-20190115-36-56 36"-36" 1/15/2019 FS	FJD03-06 FJD03-06-20181219-24-56 24"-24" 12/19/2018 FS	FJD04-01 FJD04-01-20190201-36-56 36"-36" 2/1/2019 FS	FJD04-02 FJD04-02-20190213-48-56 48"-48" 2/13/2019 FS	FJD04-04 FJD04-04-20190205-48-56 48"-48" 2/5/2019 FS	FJD04-07 FJD04-07-20190107-36-56 36"-36" 1/7/2019 FS	FJD04-08 FJD04-08-20190114-46-56 46"-46" 1/14/2019 FS
Aroclors												
Aroclor 1016	12674-11-2	ug/L	0.5		0.1 U	0.1 U	0.1 U	NA	0.1 U	0.1 U	0.1 U	0.1 U
Aroclor 1221	11104-28-2	ug/L	0.5		0.1 U	0.1 U	0.1 U	NA	0.1 U	0.1 U	0.1 U	0.1 U
Aroclor 1232	11141-16-5	ug/L	0.5		0.1 U	0.1 U	0.1 U	NA	0.1 U	0.1 U	0.1 U	0.1 U
Aroclor 1242	53469-21-9	ug/L	0.5		0.1 U	0.1 U	0.1 U	NA	0.1 U	0.1 U	0.1 U	0.1 U
Aroclor 1248	12672-29-6	ug/L	0.5		0.1 U	0.1 U	0.1 U	NA	0.1 U	0.1 U	0.1 U	0.1 U
Aroclor 1254	11097-69-1	ug/L	0.5		0.1 U	0.1 U	0.1 U	NA	0.1 U	0.1 U	0.1 U	0.1 U
Aroclor 1260	11096-82-5	ug/L	0.5		3	0.55	0.1 U	NA	0.1 U	0.1 U	0.42 JQ	0.28 JQH
Metals												
Cadmium	7440-43-9	ug/L	0.5		NA	NA	NA	NA	NA	NA	0.2 U	NA
Manganese	7439-96-5	ug/L	1100		91.9	75	8.37	10.1	38.9	58.6	112	75.2
Silver	7440-22-4	ug/L	120		NA	NA	NA	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U

Notes:

FS - Field Sample.

NA - Not analyzed / Not applicable.

H - High bias.

J - The identification of the analyte is acceptable; the reported value is an estimate.

Q - Detected below the quantitation limit.

U - Analyte not detected.

Value exceeds the detection limit for specific sample analyte.

Value exceeds Texas Commission on Environmental Quality (TCEQ) Tier 1 Residential GW-GW-Ing. Protective Concentration Levels (PCLs) established for groundwater ingestion.

SPLP - Synthetic Precipitation Leaching Procedure

Soil samples collected in grids EAS07, FJD04-01, FJD04-02, FJD04-04, FJD04-07, and FJD04-08 were taken from the top of bedrock following excavation activities. The depth to bedrock ranged between 36 inches and 48 inches below ground surface.

FJD03-06 was excavated to a depth of 24 inches below ground surface.